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A Report on the Resources and Industrial DEVELOPMENT OF Colorado. 1893

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Colorado. World's fair board of managers

The Resources, Wealth —AND— Industrial Development —OF— COLORADO.

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This pamphlet, representing the resources and industrial development of Colorado, was prepared under the auspices of the Colorado World's Fair Board of managers, having the indorsement of the Executive of the State, together with the commercial bodies of the various counties, and is presented with the compliments of

C. S. FAUROT,

Supt. Agricultural Department for Colorado,
World's Columbian Exposition.

Introductory.

IT is the purpose of this pamphlet to aid the reader in forming some definite conception of the immensity and varied character of Colorado's industrial resources. To this end a brief review of each separate industry is presented, showing the great possibilities of the State in combination. For the information of inquirers concerning advantages of location, investment of capital or pursuit of trade, a descriptive and statistical report of each county is given, showing in detail the distribution of wealth, material resources and the peculiar advantages and attractions of the respective localities, according to their merits.

Industries of Colorado.

THE wheels of progress have turned rapidly in Colorado. They now keep pace with the whirling machinery of all the industrial world, and each successive year leaves a record of advancement unequalled in the history of civilization. The eminent statesmen who formed our National Congress half a century ago derided the idea of white settlement being possible west of the Missouri river. No portion of the great West has played a more conspicuous part than Colorado in the changes which have been wrought in national history since those times.

The first settlement in Colorado was made by a party of gold seekers, who located on the site of Denver in 1858. The first discovery of gold was made in the spring of 1859, and it was the fame of this discovery that gave rise to the memorable Pike's Peak flood of immigration, which became the basis of the present population and also the beginning of the wonderful industrial development of to-day. Colorado was organized as a territory in 1861, and when admitted as a State in the Union in 1876 had a population of only 65,000. By the census of 1890, it was accorded a population of 412,000. Its actual population in 1893 can safely be estimated at 450,000.

Attracted by the great wealth and diversity of Colorado's natural resources, the more intelligent and courageous have come to the new country to bring it under the control of their genius and their labor. They have come from the fields and shops and the luxurious homes of North America, and they have come from every civilized quarter of the globe. So that it is the concentrated energy and genius of the world that is developing Colorado. In all the departments of industry the State is only in the primary stage of its development, with boundless wealth in the possibilities of its soil for agriculture, in its enormous treasures of silver and gold, in its vast deposits of coal and iron, and its immeasurable and diversified resources for manufacture.

The natural advantages of Colorado present a surprising study to people abroad. The State comprises an area of 103,477 square miles, or 66,205,875 acres. It has two natural divisions—mountains and plains. The mountains are filled with the precious metals, with coal, iron and stone, with marble and granite and innumerable minerals of commerce and manufacture. In silver and gold it is the largest producer in America. The great park system of the Rocky Mountains, embracing the famous San Luis Park, South Park, Middle Park and North Park, comprises an area collectively larger than that of Ohio. These parks are valuable for stock raising and agriculture and contain some of the noted watering-place resorts, hunting and fishing grounds of Colorado.

The plains east of the mountains constitute more than one-third of the total area of the State, and the lands everywhere possess a rich soil, highly productive of all manner of crops wherever water can be applied, wheat, oats, rye, barley, corn, potatoes and alfalfa being the principal crops. In the eastern tier of counties crops are successfully grown without irrigation. The western slope of the mountains comprise level mesas and broad valleys, the latter watered by numerous streams, being extremely rich in soil and productive to a high degree of all the fruits and cereals of the temperate zone. The mesas possess great fertility, especially adapted to fruit culture. Separated from all these sections by mountain ranges, the plains and valleys of Southwestern Colorado, embracing a large territory, are equally rich in soil and bountifully productive of orchard, field and garden crops.

Within the mountain division, the State has its water supply from numerous rivers, creeks and springs, which, starting in little rivulets from the snow banks at lofty altitudes, ripple down the steep inclines and unite their forces in the valleys below. Thus the eight principal rivers of the State—the Arkansas, the South Platte, the Rio Grande, the San Juan, the Gunnison, the White, the Yampa and the Grand, are formed, together with their numerous tributaries, giving ample water supply for irrigation, leading in all directions through the principal agricultural sections of the State. These water-courses have also been useful in marking out the lines of pioneer travel, leading the way to the great gold and silver discoveries, and in later years indispensable as affording routes for the railroads through mountain cañons to the mining camps and great agricultural valleys of the State. They have also opened the way for lines of railway through the State and across the continent.

Until of recent years, Colorado was known abroad only as a mining and grazing country. Within the past ten years the birth of new industries has been numerous, and their growth phenomenal. Mining, with its immense yield of wealth, is of secondary importance when compared with the combined industries of the State. Agriculture has taken great strides of progress within the past five years, and the revenue derived from the soil is fully equal to that of all mineral production. There are 1,844,500 acres now in cultivation under the irrigation system, and there are in addition 2,238,238 acres under ditch, unoccupied and awaiting settlement and tillage at the hands of the immigrant farmer.

Not only this. There are many millions of acres, rich in soil, that must eventually be brought under tillage by the new systems now being promoted for the increase and the more economic use of the water supply. No field in the United States is more promising to the farmer of the future.

The live-stock industry of Colorado is one of the permanent sources of wealth. The well-regulated stock farm is a leading feature of the business, and the cultivation of blooded cattle and fine stock

on the farm has become an extensive and profitable branch of the industry.

Of coal, iron, lead, copper, stone, marble and granite there is an ample supply for thousands of years to come, and the fine clays for manufacture and building are in supply beyond the range of computation. Petroleum exists in many parts, and one developed field supplies the State and many outside markets with refined oil and the lubricants. Manufacture is taking great prominence throughout the State and at leading cities, there are iron works and foundries, rolling mills and factories, woolen mills, cotton mills, paper mills, and an innumerable variety of less important establishments in successful operation, all combining, in their primary stage, in starting the new era of manufacturing in the West.

Not the least among Colorado's advantages is its healthful climate and the many splendid mineral springs and delightful health resorts distributed throughout the mountains, which have become attractive and beneficial to many thousands of invalids and pleasure seekers in their annual visits to the West.

The gain which the State made in population from 1875 to 1885 was 147,163, and the gain in the succeeding five years was 216,645. Population in 1890 (census), 410,809. Estimated population in 1893, 450,000.

With a combination of industries and material resource so varied and so abundant, Colorado stands unsurpassed by any country in the world in its inducements to the home-seeker and the capitalist—to the former a promise of a home with peace and plenty, to the latter the opportunity of fortune.

Agriculture.

THE progress that has been made within the past ten years in the agricultural development of Colorado is a striking fulfillment of a remarkable prophecy. The prophecy is singular because of its extravagance, the source from which it came, the remote period in the past at which it was uttered, and because of the more recent corroborative declarations many years before civilization had made a foot-print west of the Missouri river. In the year 1831, when the western boundaries of American settlement clung closely to the Mississippi river, M. DeToqueville, the learned French statesman and political economist, made a journey through portions of the sterile and savage West, as emissary of his nation. His report comprised a volume of scholarly literature, entitled "Democracy." In a note of his observations upon the arid region, his prophecy concerning it ran as follows:

"To the south-west, Mexico presents a barrier to the Anglo-Americans. Thus the Spaniard and the Anglo-American are, properly

speaking, the two races which divide the possessions of the new world. The limits of separation between them have been settled by treaty.

* * Vast provinces extending beyond the frontier of the Union toward Mexico are still destitute of inhabitants. The natives of the United States will people these solitary regions before their rightful owners. They will take possession of the soil and establish social institutions, so that when the legal owner at length arrives he will find the wilderness under cultivation and strangers quietly settled in the midst of his inheritance. Even the countries which are already peopled will have some difficulty in securing themselves from this invasion."

Whatever prophetic power might have inspired the writer, doubtless he looked forward a century or more for the realization of the vision. Within less than a generation the forces were at work and the movement had begun toward the present high state of civilization in Colorado and all the West, which is now an exact fulfillment of De Toqueville's prophecy.

Then thirteen years after De Toqueville, there came another prophet, who, upon a mission of personal curiosity and interest as a student of the world's history, traveled over much of the ground viewed by his predecessor, and at the very spot which has become the center of this civilization and the nucleus of that industrial development predicted by De Toqueville, his corroborative prophecy was made. This was in 1844. The purpose of his journey from the Missouri River to the Pacific Ocean was to solve two problems, namely, first: The feasibility of a transcontinental railway route, and second, whether or not the arid plains and the prairies could become cultivable and habitable. On his return from the Coast in 1844, surrounded by hostile Indians, beset by the more savage beasts of the wilderness, and camping one night upon the ground where the magnifieent City of Denver now stands, in the presence of four wandering white companions, who had drifted together by chance, this man made the prophecy that he would live to see all this wild waste of country come under the dominion of civilized Americans; that the plains would be cultivated and bring forth fruits and grain; that the mountains would yield great treasure of silver and gold, and that the very ground upon which he stood would be the site of a great city, the center of commerce and the metropolis of the West.

Wonderful prophecy! Astounding fulfillment! Farms, homes, towns, cities, villages dotting the plains, nestling in the valleys and crowning the mountain heights! Two millions of acres of agricultural land under cultivation in the State! the value of the products of agriculture, mining and manufacture reaching one hundred and forty million dollars a year! Assessed valuation of the State, $240,000,000; estimated real valuation, $720,000,000. Four hundred and fifty thousand people in the State and the magnificent City of Denver, with a population of 150,000 souls!

At a later date and while at the time standing singly and alone in a controversy with such eminent statesmen as Clay, Calhoun and Webster in the Senate of the United States, this same distinguished citizen gave utterance to the following prophecy in an oration which is to this day preserved with the archives of the Nation. He said:

"The West is destined to surpass in agriculture, stock raising, mining, and eventually, in manufacture. Every advantage seems to be hers, save only greater proximity to Europe, and if the East commands European commerce the Golden Gate opens upon Asia and sends her argosies to all the ports of the broad Pacific. Beyond, peradventure, the West is to dominate the East."

These words were spoken at the time when the white man of America was fighting with the Indian for a foot-hold and a habitation on the western banks of the Missouri River.

In less than twenty years from that time the plow had made great furrows in Colorado and the virgin soil brought forth in generous fold at the touch of intelligent cultivation.

The First Crops.

The beginning of agricultural development in Colorado was on a scale exceedingly small. Narrow strips of bottom land along the small streams near the foot-hills were cultivated as early as 1860, but at first only vegetables were raised. For some years afterward the raising of wheat and other grains was more the work of experiment than as a distinctive business enterprise. The methods of seeding, cultivating and harvesting were the most primitive known to Americans, and the first wheat ready for the thrasher was tramped out by horses or beaten out with the flail of ancient use. Until after 1865, there were no crops of commercial importance and no quotations of prices. Hay, as it was harvested, mainly from the native grasses, constituted the principal crop. The harvesting of hay for the purpose of keeping and fattening the horses of the settlers and stock traders of those early times was the principal source of revenue to the farmers. All other products were mostly for home consumption. The surplus was sold, usually at exhorbitant rates, in the Denver market.

From 1860 to 1870, the greater part of all the produce and all the provisions, clothing, etc., consumed in Colorado towns, mining camps, and even upon the ranches, were hauled across the plains by ox teams, a distance of 600 miles, the enormous freight rates more than doubling the commercial value of the staple articles, while many things of lowest value were thus placed at highest price.

Everything for consumption or for use in the industries just coming into life, even the lumber which entered into many of the pioneer buildings, and the seeds with which the crops were planted, were thus carted across the plains, amid the perils of savage life, and many a rich caravan was looted by the Indians, and the bones of men, women and children slaughtered left to bleach upon the desolate plains.

In 1860, wheat sold in Denver at 7 cents per pound; potatoes, 8 cents; hay, $15 to $30 per ton, and during hard winters it went up to $50 and $100 per ton.

As late as 1865 many of the staple articles were not to be had at any price, even in the markets of Denver. There is on record in that year an instance wherein a single sack of Irish potatoes was sold for $60 to a Denver grocer, who retailed them at 60 cents per pound and said he lost money by it. As showing the range of enormous prices prevailing in that year (1865) for the necessaries and the luxuries, the following is a true copy of a cancelled bill upon the books of a pioneer Denver merchant:

	——To——	Dr.
To 3	pounds bacon at 40 cents	$ 1 20
2½	pounds butter	3 00
2	pounds dried blackberries	1 50
24	pounds flour	5 25
¼	pound of tea	1 75
2	plugs tobacco	1 50
1	box matches	25
6	pounds sugar	2 40
8½	pounds pork	4 47
3	quarts syrup	3 45
1	can corn	1 40
1	sack salt	2 40
1	can peaches	1 25
5	pounds coffee	4 00
10	pounds potatoes	2 00

These first farm operations were confined to a small area, principally in Boulder and Jefferson counties, a few miles only from the small village of Denver, which was then, as it now is, the center of population and trade. The first irrigation of which there is any record was the construction, in 1861, of a small ditch taking the water out of Boulder Creek at a point which is now the Twelfth street bridge in the City of Boulder. This watered a small area of valley land within the immediate neighborhood. The second ditch, constructed a year or two later, which received the name of the Farmers' Ditch, carried the water over the plateau to the north of Boulder, a distance of some miles, establishing the first example in the system of true irrigation which has become so widespread in the present day.

During these earlier years, however, as immigration increased, settlements multiplied along the rich valleys of Boulder creek, the St. Vrain, the Little Thompson, the Big Thompson, the Cache la Poudre, the Platte river and others of its tributaries forming the great Platte valley, which is now the great agricultural center of Colorado, embraced within the counties of Arapahoe, Jefferson, Boulder, Larimer and Weld, and now extending from the base of the mountains to the north-eastern limits of the State. Before the farmer came this central ground in the valley of the Platte had become historic and famous by the exploits of John C. Fremont and Major Stephen S. Long, coincident with the daring deeds of such famous frontiersmen as Kit Carson, Jim Bridger, Jim Baker, Jim Beckwith and others, who, in the early days constituted the videttes of the civilization of the country. It was upon these grounds, while still the savage red man held dominion of the plains, that the spirit of agricultural enterprise first

found a permanent abiding, and in the valleys of all these streams scattered about at wide intervals, the pioneer farmers built their homes, cultivated the lands, sustaining their families and producing a scanty surplus for dependent settlements, and laying the foundation for great development in the future. But the extension of agriculture in a general way to the uplands and the planting of cereals, except to a very limited degree, did not occur until about 1870, which ushered in the railroad era. In the same year the famous Greeley colony, under the leadership of the celebrated editor and statesman, Horace Greeley, came, locating in Weld county on the present site of the City of Greeley, establishing the first farms in what is now known in Colorado as the great Cache la Poudre and Platte Valley agricultural section, the leading wheat and potato producer of the State. Until this time the true development of agriculture had been retarded, because the extensive irrigation required involved the construction of great canals at large expense, and the majority of farmers, still small in number, were too poor for such undertakings. Again, from the lack of experience with the climatic and other conditions of the country, development proceeded slowly. The crops were of uncertain yield and not generally relied upon as a source of supply.

True Development of Agriculture.

Since 1870, one of the finest and most extensive systems of irrigating canals in the world has been constructed, and it is from that time hither that husbandry has attained about all the triumphs worthy of record. It is also essential to note that all the development which entitles Colorado to first-class rank as an agricultural State has occurred within the past ten years. The progress that has been made within this period is shown more effectually by official statistics of irrigation and agriculture than by any elaborate statement of facts, though they compose a marvelous and fascinating story.

In 1880, when the State contained a population of only 154,000, Colorado imported 500,000 bushels of wheat and flour for home consumption, 2,000,000 bushels of corn, 500,000 bushels of potatoes, 1,000,000 bushels of oats and 100,000 tons of hay. At that time there were only 600 miles of irrigating canals in the State. In 1893, with a population of 450,000, there are 12,406 miles of irrigatiug canals and ditches in the State, representing 4,855 ditches and 4,082,738 acres of highly productive lands, accessible to water. Of this vast area 1,844,500 acres are actually irrigated and under cultivation. Added to this must be taken into account a number of scattered areas where the land is tilled without artificial irrigation and a safe estimate of the total area actually embraced within the farm lands of the State would be 2,000,000 acres, though it is not designed to convey the impression that an area so enormous in proportion to the population is closely cultivated with every acre bearing its harvests. It is stated upon the authority of the State Engineer, that by its economical use

the annual water supply is sufficient to irrigate all of the 4,000,000 acres and more now under ditch. Thus in land and water, (leaving out of account, if need be, the millions of acres of non-irrigated, but productive lands), Colorado has now the agricultural resource for the maintenance of additional millions of population.

Distribution of Agricultural Areas.

The distribution of agricultural areas in Colorado, with reference to natural streams, the valleys, parks and plains, with reference to elevation and climate and the products the more successfully grown, relative to the sections respectively described, is a most interesting study. In fact it now becomes the most valuable point of information to the home-seeker. The horticulturist will naturally seek a fruit growing country. Another, may prefer the land of corn and the melons, while many may choose the sections where the cereals yield the best returns for the labor and capital invested.

Taking the State as a whole, every cereal, fruit, root and grass cultivable in the temperate zone can be profitably grown in Colorado. The Colorado farmer is now puzzled to determine, out of the multitude of varieties of successful crops that which he should cultivate for the best success and the greatest profit. The best adaptability shown thus far is for the culture of wheat, oats, rye, barley, corn, potatoes, fruits, alfalfa and all the hay-making grasses. The leading crops in the order of their importance, as cultivated, are wheat, oats, alfalfa and potatoes. Whether of field or orchard, the culture of a single crop, either of fruit or grain or grass, can be made an industry of profit. Everywhere it is a great country for garden vegetables of every description, and these products are unexcelled in any country of the world, while the average yield per acre is enormous. Small fruits are prolific to a marvelous degree. In several counties both on the eastern and western sides of the Continental range, both upon the farms and at the United States experimental stations, successful crops of a very fine high grade Havana leaf tobacco have been raised, the plant meeting every condition of climate and coming to maturity in due season.

The crops in their varieties that are most profitably grown have been shown. They are the most profitable because being the predominating crops. But it might be properly mentioned in this connection that there is greater profit per acre in barley than in any of the more universally cultivated cereals. The peculiar adaptability of soil and climate matures barley to a higher degree of excellance than elsewhere in the Union. Greater than all, are the profits of the orchard, which as yet is an industry extremely young, but most precocious in growth. Colorado is destined to be the great fruit producer of the West.

All this great combination of products are grown in every agricultural section of the State, but the special adaptability of certain crops

to the respective divisions of the State is the question now to be considered for the benefit of the immigrant farmer seeking a location in the West.

Rich soil, excellence of product and speedy returns in the markets close at hand, are the strongest attractions to the farmer seeking a new location. Colorado offers unrivalled advantages in all these requisites. The yield per acre depends upon location, soil, climatic influences and methods adopted in the cultivation of the crops. The farm lands of Colorado have not less than five natural divisions with reference to soil and climate as well as geographical position. These divisions are the northern and southern portions of the open plains east of the Continental range; the valleys, mesas and parks of Southern Colorado, lying east and west of the mountains, and the valleys and mesas of the western slope. The principal areas for wheat and other cereals are the northern, southern, western southwestern and extreme eastern portions of the State. Corn culture is confined principally to the Arkansas valley and the eastern tier of counties, the former section being peculiarly adapted to corn and also to fruit culture. Wheat and other cereals grow successfully in all tillable lands of Western Colorado and crops of high average are raised annually; but this is essentially a fruit growing country, and the best efforts of the settlers in this new country are devoted to the orchards and the vineyards, the oldest of them having an existence of only ten years, but unsurpassed in the generous yield and excellence of their fruits. Potatoes, alfalfa and all other grasses and clovers grow in great abundance in all portions of the State. Classed among the experimental crops are such products as sorghum, buckwheat, navy beans, broom-corn, hops, sugar beets, hemp, flax, tobacco and other plants that have proven successful. These crops are experimental only in the sense that their culture has not been extensively adopted. Any one of these products might be selected out of the great variety and made profitable as a specialty. Hop culture especially, is destined to become an industry of great importance.

The State is divided into six great irrigation divisions, arranged according to the natural drainage represented by the principal streams, namely, the Platte, the Arkansas, the Rio Grande, the San Juan, the Grand, the Green and the White and Yampa rivers. These are divided into sixty-seven districts, each district being under control of a water commissioner.

Northern Colorado.

The division of the Platte comprises the agricultural section of Northern Colorado, watered by the Platte, the St. Vrain, the Cache la Poudre and their numerous tributaries. It embraces Jefferson, Boulder, Larimer, Weld, and a small portion of Arapahoe county. This is the agricultural heart of the State. It was first settled, had the earliest and best markets, and is the richest and best developed agricultural portion of the State. While all field crops and orchards thrive in this section, the leading products are wheat, alfalfa, oats and

potatoes, Weld county being the banner wheat and potato producer. Within the last few years, particularly in localities in easy communication with Denver, there has been a very decided growth in many of the lighter forms of agriculture, such as dairying, apiculture, gardening, horticulture and the like. The production of fruits, vegetables, milk, butter, honey, etc., is now among the leading sources of revenue to the farmers of Northern Colorado, all these products having ready market at good prices in Denver and other cities of the plains.

This is the portion of the State that is settled in all the courses of industrial life, where all the industries required under present conditions are in operation and all the material resources in process of development. It is in that self-sustaining condition of independence that it may be symbolized as an individual having the full-sized form and strength of an adult, but yet having many years to grow. Its fields are fully occupied and highly cultivated under the irrigation system, and its cities and towns with their concomitant industries, have grown in equal measure with the general thrift of the land and its people. The country is rich and strong, as a result of development, and still possessing unknown wealth of natural resource, thus continuing to be an inviting field for capital and labor. All available agricultural land being under proprietorship, the prices range much higher than in the newly-opened sections, and, are therefore not so accessible to the immigrant seeking a cheap home, which may be found in locations equally favorable. But to the person who prefers the conveniences and luxuries of a well-populated and well-ordered country, the northern portion of Colorado offers every attraction and every advantage of business success.

While the five counties named are properly designated as the agricultural portion of Northern Colorado, in its broadest sense the valley of the Platte to which all streams in this division are tributary, comprises all of North-eastern Colorado, its water-shed covering an area, approximately, of 21,000 square miles, or about one-fifth of the area of the State. It flows through, or touches nine counties throughout its course to its exit into Nebraska. Within this magnificent domain are the resources of an empire. The area embraced in the irrigated counties of Arapahoe, Jefferson, Boulder, Larimer and Weld, is of itself, an empire of wealth. It numbers 1,200 irrigating ditches, with an aggregate length of 3,500 miles, and covering 1,100,000 acres of land, of which at least 700,000 acres are actually irrigated and cultivated. It had, according to the last census, a population of 176,115, but which can safely be stated at 200,000, or nearly one-half the population of the State. In the five counties named are 350 school-houses and school-property valued at $3,000,000. There are 725 miles of railway within the same area or about one-fifth of the entire mileage of the State. The assessed value of property in the district is $124,327,259. More than one-half the whole assessment of the State, and indicating an actual wealth of $373,000,000. With

the City of Denver as its metropolis, this section is destined to be the great manufacturing center, as it now is the commercial magnate of the Great West.

The Arkansas Valley.

The division of the Arkansas embraces the counties of Pueblo, Otero, Bent and Prowers, comprising the largest area of agricultural land in the State. The Arkansas Valley as an agricultural country represents the most marvelous transformation from the natural conditions of sterile waste to a state of high cultivation in the history of western settlement. In 1880 the whole country was a barren plain, with naught but sand and buffalo grass in view, and the immigrant farmer passed through the country in search of agricultural lands further west. A few farmers settled in the valley in 1881, and the first test of the soil proved surprisingly successful. From that date population increased. The greatest development has taken place within the past five years, the original county of Bent having, during that time, been divided into four counties, owing to the increased population and the change in conditions whereby the great cattle range had been converted into a country of farms. The Arkansas River courses centrally through, and the Atchison, Topeka & Santa Fé and the Missouri Pacific railways traverse the country on either side the stream. Numerous large irrigating canals have been constructed, taking their tortuous routes for hundreds of miles through lands that have no superior in America for richness of soil, for capabilities of varied production. The desolation of a few years ago has been converted into vistas of lovely landscape, adorned with towns and villages, with beautiful fields and delightful country homes. Everywhere the soil is deep, rich and highly productive of grain and grass and fruit. All the cereals thrive with a high average production. Soil and climate are especially adapted to corn. It will be the leading corn country of the State, while the orchard and the vineyard in the Arkansas Valley will become one of the great industries of the State in the future. The climate is agreeable, lands are cheap, and every condition favorable to farming. The valley contains millions of fine acres open to settlement.

Division of the Rio Grande.

This division comprises the famous San Luis Valley, embracing large proportions of Saguache, Rio Grande, Costilla and Conejos counties. This is one of the most lovely stretches of agricultural country in the world. It is known on the maps as San Luis Park, being a part of the great park system of the Rocky Mountains. It comprises an area of many thousand square miles. It is centrally located among the southern tier of counties and fringed on all sides by the high mountains, its soil being enriched by the disintegrating masses, as they have washed down through countless ages from these lofty places. Soil and climate are favorable for agriculture and the live stock industry. The leading crops are wheat, oats and potatoes. Other field products that thrive are barley, rye, alfalfa and other

grasses and clovers. All the hardy vegetables grow in great abundance and attain enormous size. In this valley the highest maximum yield in wheat and oats ever known in the State have been attained. Its greatest development as an agricultural country has occurred since 1885. Being supplied by nature with an abundance of water, it is equipped with a system of irrigation unsurpassed in the State. Numerous agricultural settlements have been made, and the valley is dotted with towns and villages. The wheat crop of 1892 is estimated at 500,000 bushels, which is an enormous yield, according to the acreage sown. San Luis Valley is surrounded by rich mining camps, including the great Creede camp with which it enjoys railroad connection, and is thus assured of a constant cash market for everything it produces from the soil.

The "Western Slope."

The division of the Grand comprises the principal agricultural area of Western Colorado, or the "Western Slope" as it is called as a distinguishing term. The Grand River flows through the northern portion of Mesa county, forming a junction with the Gunnison River which flows through portions of Montrose and Delta, the two main streams and their numerous tributaries draining Montrose, Delta, Mesa and Garfield counties, which comprise the great farming and fruit growing section of Western Colorado. The Grand Valley proper in Mesa county, with the City of Grand Junction in the center, is what is distinctively known as the great orchard and vineyard of the State.

This country has a history of peculiar interest. It formed a part of the Indian Reservation and was the favorite land of the Utes until their final removal in 1882, in which year the first white settlements were made in the Grand Valley. Agricultural development began in a small way in 1883, when the many advantages of industrial resource became known to the outside world. The tide of immigration set in that direction and in the two or three successive years the wild aspect of the country along the main streams was converted into homes and farms, towns and villages, and all the industries of a commonwealth were put in motion. All this great western portion of the State possesses immense wealth in the precious metals, in iron, coal, stone, marble and many other resources, and is especially adapted to stock-raising. While the country is productive of all the ordinary farm crops, the early settlers discovered the superior advantages of soil and climate for the cultivation of fruit. Orchards and vineyards were speedily planted and the first year of bearing proved a success exceeding all expectations. Population rapidly increased, farms were planted to the cereals and hay-making grasses, and large areas were planted in vineyards and orchards, embracing all manner of fruits excepting only the citrous varieties. The results during the nine years of development, after only six years of actual production from the tree and the vine, have been marvelous. Hundreds of miles of irrigating canals have been constructed, and many thousands of

acres placed under cultivation. The fields have yielded with generous response in grain, while the orchards have been burdened to the ground with their prolific bearing of the most luscious fruits. Peaches, pears, apples, plums, cherries, nectarines and apricots are the principal tree fruits. The peach becomes the leading crop in the Grand Valley. This is peculiarly the home of this fruit. It has no superior in the world for richness of flavor, far surpassing the California peach in this essential point of excellence. The small fruits are the gooseberry, currant, raspberry, strawberry and blackberry. Strawberries grow large in size, exceedingly fine of flavor and in great abundance. Grapes grow in great profusion, of fine size and richest flavor. All the varieties are grown successfully and the choicest California varieties are not surpassed in their native soil. In the culture of the grape and the peach, Colorado has, in so brief a period, become the rival of that great fruit growing State, supplanting its products in the local market and also in popular favor wherever the Colorado product finds its way. Time has been too brief for the cultivation of the soil and the development of the orchards to their full capacity, but in these first steps of fruit growing, the average orchard in full bearing gives a return of $500 per acre, strawberries $200 to $300, and grapes from $300 to $400 per acre. But the orchards have not yet reached more than half their capacity. When the trees have reached their full size and mature bearing period, their present production will have doubled. By this time thousands of acres of new orchards will have come into bearing. Then indeed will begin the era of great commercial importance of the fruit industry of Colorado.

What these revelations of time will be is well illustrated by the experience of the first settler and pioneer fruit-grower, who located on the North Fork of the Gunnison, in Delta county. This man having already selected his location, went into the country immediately following the exit of the Indians, taking with him a trunk filled with nursery trees in variety which he planted. These trees having now fully matured after a growth of ten years, the owner recently picked from one tree $52 worth of peaches. A year or two after his settlement, this farmer (Mr. Wade) planted a large orchard with all the variety of tree fruits, including also an extensive vineyard. In 1889, these trees and the vineyard came into their first good bearing. In 1890, Mr. W. sold to B. six acres embracing the varieties at the rate of $360 per acre, or a total sum of $2,160. In the next two seasons (1891–92) B. sold from his two crops a sufficient amount of fruit to pay the purchase price and had $800 left after deducting all living expenses for self and a large family. Since that time he has refused $500 an acre for his small but wealthy fruit farm. Instances of alike results have been repeated in Delta, Mesa and Montrose counties. Each of these counties possess peculiar advantages of agriculture and horticulture, though it is true of Delta that its possibilities of cereal production are fully equal to its capabilities for fruit, while in Montrose county general agriculture and stock-growing take pre-

cedence of all other industries, at the same time showing great possibilities of fruit culture. While the Grand Valley has become so noted for its peaches, the prolific and splendid production of the pear and apple in Montrose and Delta, it is believed by some leading fruit-growers, will in time, establish these two fruits as the leading orchard products of Western Colorado. However, in the present status of the industry, the Grand Valley in Mesa county is the favored section, and the leading producer for all varieties of fruits, the orchards and vineyards having the advantage of age, the country having a much larger and better development, and the soil having special adaptation to certain kinds, as for instance, in the culture of the peach. In view of the fact that only a small per cent. of the many producing orchards throughout this vast section have reached half their capacity of bearing, and taking into account the more important fact that the greater development of this country in the past few years consists in the planting of new orchards, these orchards comprising many thousands of acres of young trees which have never yet borne their first fruits, the future of the fruit industry of the State in its relation to commerce becomes an interesting study. In reckoning the results of such future development, the present great achievement of Northern Colorado, the wonderful capabilities of the Arkansas Valley and the fair promise presented by South-western Colorado must be taken into the account.

The statistics of trade show that during the past year (1892), 1,100 car-loads of California fruit were shipped into Denver for distribution and local consumption. While Denver, as the central market of the State, requires so great an amount of seasonable fruit, it is a well-known fact that since the orchards came into bearing, not a crate of Western Colorado fruit has ever reached that city except by some special arrangement for very small consignments, notwithstanding the Colorado fruit, full ripe and fresh picked from the stem, always commands a price 20 to 30 per cent. in advance of the California product. All the fruits raised in Western Colorado thus far, find a ready sale at good prices in the local markets and the surrounding mining camps, commanding prices 100 per cent. higher than the same classes of fruits in other sections of the State; hence the great profit per acre, on fruits in that section as cited in that portion of the State in the foregoing. But when these vast areas of young orchards come into full bearing there will be a great surplus from local consumption, and that surplus, in its season, will undoubtedly be sufficient to supplant a large proportion of the California trade. What with the possibilities of the other fruit sections named, Colorado within a few years will be able to supply all the home markets, and with the still further development to be made by the population of the future, she can furnish the markets of the neighboring States of the West.

Vast areas of these rich farm and orchard lands of the Western Slope, including other counties than those designated, remain open, unoccupied and inviting to settlement by the home-seeker in the West.

Among the settlements, where the lands have been placed within the reach of water by irrigating canals, good lands for general agricultural purposes, unimproved, may be purchased for $10 per acre; improved lands at $30. The cost of perpetual water-rights is $10 to $12.50 per acre. Cost of water by rental, $1 per acre. In some parts good land suitable for farming and stock-raising may be obtained for less than $10; but, the cost of water is everywhere uniform and must invariably be added to the cost per acre of land, for no crops are raised in these parts without irrigation.

Orchard lands exclusively command higher prices, regulated by location with reference to development of the country, nearness to centers of population and convenience to railway shipping points. Improved orchard lands vary in price from $30 to $700 per acre, including water-rights, the greater proportion of such lands selling for from $100 to $200 per acre. The higher figures appertain more particularly to portions of Grand Valley in a high state of development. Unimproved orchard lands command nominally $10 per acre. At this price the poor man who is unable to buy a large farm may obtain a ten-acre fruit farm which will be sufficient for all his needs, for $100. Additional costs, fencing $70; water right, $100. He may plant his ground to all the varieties of fruit at the following rate for the entire area of ten acres: Apples, $150; peaches, $136; apricots, $212; pears, $212; grapes, $150. Thus, he may establish an orchard of as many varieties of fruits as he may choose, at a cost of about $500, and while for the first two or three years the trees are growing, he can make the land pay the purchase price in small fruits and vegetables.

In the general agriculture of Western Colorado, the average of cereal products per acre are equal to the highest average for the State, while the maximum products of many valley farms in all the counties named is extraordinary, showing an amazing fertility of soil. There are also advantages of climate, peculiar to the topography, the altitude and the conditions of atmosphere prevalent on the Western Slope of all great mountain ranges, which aid materially in the prime growth and perfect ripening of farm products as well as the fruits.

Green River Division.

The Green River division embraces the western portions of Routt and Rio Blanco counties, watered by the Green, the Yampa and White rivers and their tributaries. This is a vast extent of country, lying directly north of the Grand River division and forming the north-west corner of the State. The land is partly mountainous and may be described as varying in all the characteristics of a "broken" country with its mountains and lesser hills, its rugged, rocky domes, its mesas, its valleys and its plains, its heavy timbered forests and its beautiful mountain lakes. In all parts the soil is rich, but the climate is less favorable to general agriculture than in the lower lands south. All manner of cereals can be grown, but the seasons do not admit of their

profitable cultivation in the larger portion, particularly in the north. Alfalfa, potatoes and all the hay-making grasses and garden vegetables are successfully grown, and the soil yields in great abundance. The country, therefore, though sparsely settled, is occupied by the class of people for whom it was by nature intended. It possesses every advantage for the live-stock industry, and here is where some of the finest horses and best cattle of the State are bred and raised. Having an abundance of pure water, finely sheltered grazing lands for the summer and autumn and an abundance of the best of hay for feeding through the winter and early spring. No country in the world offers better advantages for the live-stock industry. Large herds of cattle every year reach the markets of Utah and the East from this section. Throughout the country, particularly in Routt county, within the past ten years a number of enterprising stockmen have established stock-farms for the exclusive business of breeding, and the annual sales in the Denver market from these farms prove the perfect adaptation of the country to the breeding and culture of fine stock, wherein the heavy draft-horse, the roadster and thoroughbred of blue grass pedigree form a conspicuous part. In a large portion of Rio Blanco county experiments in fruit growing have proved successful, and it is likewise true that wheat and oats come to maturity with a high average yield, but as yet the agricultural settlement is limited, though extensive preparations in the way of irrigation canals have been made for the future population, which will be composed of farmers, cattle men and people devoted to all branches of the live-stock industry. In the irrigated sections of Rio Blanco county the yield of wheat and oats per acre has been very large. The Grand Valley in Garfield county is also a rich section, productive of all farm crops and orchard fruits. In both Rio Blanca and Routt counties there is great wealth of natural resources; the forests become a great reserve of useful timbers for the generations to come, and are bountifully stocked with game, the streams and lakes swarm with the finest fish, and there are beautiful parks and mineral springs and delightful places of health and pleasure resort. All in all, this is a country that possesses many attractions to the home-seeker, and will be preferred by many because of its great combination of industrial resources and its many peculiar attractions. It contains an abundance of unoccupied lands that may be obtained cheaply and on the easiest of terms, while there are vast tracts of government land that may be filed upon by homestead entry at $1.25 per acre.

The San Juan Division.

La Plata and Montezuma counties, occupying the south-western corner of the State, comprise about all the valuable agricultural area in this division. These counties with their rich valley and mesa lands, productive in a high degree of all manner of crops, likewise possess great wealth of natural resource, such as coal, iron, stone, the precious metals and the minerals of commercial and manufactural value.

Here is comprised a vast area of agricultural lands, having the advantages of a Southern climate, where the production of all manner of cereals and fruits is highly remunerative. The country has an abundant supply of water, possessing many attractions of nature for health and pleasure, and embracing all the advantages of material resources that establish towns and cities and form the combination of industrial and social life as it exists everywhere in the commonwealths of high civilization. To be precise, a farm of eighty acres in La Platta or Montezuma county, is the basis of a fortune and a guarantee of a supply of all the necessaries and luxuries of life. In every essential the land is adapted to all the cereals, and root crops, to fruit culture, and all varieties of clovers and hay-making grasses. The products are rich, and grow in enormous yields per acre. These lands, covered with rich native grasses become an open pasture all the year round, and therefore afford all possible advantages for the live-stock industry. Thus the opportunity is offered to every farmer to possess his fields of grain and hay, his garden, his orchard and his herds of sheep and cattle, each department becoming a perennial and never-failing source of profit. As in all other portions of the State these lands may be cheaply obtained on easy terms, at prices ranging from a homestead entry to an improved and expensive deeded farm.

In Southern Colorado.

The counties of Las Animas and Huerfano, in the southern portion of the State lying immediately east of the Continental range, while possessing immense resource of coal, minerals and other material, embrace a large scope of agricultural lands in the fertile valleys of many streams, together with many hundreds of square miles of grazing lands upon the open plains. A large proportion of the farming lands are under cultivation, and the value of the crops and the live-stock interests form a large contribution to the aggregate wealth of the State. Huerfano county is watered by the Cucharas river, Huerfano and Santa Clara creeks and smaller streams. The valleys are broad and extremely rich in soil, producing the cereals and grasses, the more profitable crops being oats, alfalfa, potatoes and garden vegetables. About 20,000 acres are under cultivation by the irrigation system.

Las Animas county is watered by the Las Animas river, Purgatoire creek and numerous smaller streams, having 75 miles of irrigating canals and 35,000 acres of land under cultivation. Oats form the leading crop in point of yield per acre, the most profitable crops being potatoes, alfalfa and other clovers and grasses. The City of Trinidad, for many years before American civilization in the West a Mexican village, is the county seat with a population of 5,000. The two counties combined contain the largest coal-producing fields in the State, and the largest coke-ovens in the West are located at Trinidad. Here is also the leading market and manufacturing point between Pueblo and Santa Fé, New Mexico, and by reason of the combination of important industries in all this section of the country, the future

holds great promise for agriculture, all products having a home market and always commanding the best prices. Three lines of railways traverse both counties, connecting with all parts of the State.

Eastern Colorado.

Eleven counties, forming the eastern end of the State and embracing more than one-fifth of its total area, stand separate and distinct from the agricultural areas of the State as known under the irrigation system. In this part there are few running streams and little or no irrigation. Within this area there are not less than 12,000,000 acres of fertile land. It has been from the days of earliest settlement a part of the great cattle range of Colorado and designated as the "arid region." The country has never been regarded by the early settler, nor is it now regarded by the farmer under the irrigation system with the hope of its reclamation. Nevertheless a few farmers emigrating about ten years ago from Western Nebsaska and Kansas, made settlements in one or more of these counties along the new lines of railway which then entered the State. For a livelihood they first turned their attention to stock-raising and to limited farming as an experiment. At that time the present counties were embraced in the few old and very large counties that covered the plains. The first crops, consisting namely of corn, wheat, oats, hay and potatoes, proved so far successful that the experiment was tried the following year on a larger scale. The effort was regarded as an experiment because the new-comer, in the absence of irrigation was obliged to depend upon the rain-fall for his crops, a possibility to which all men in Colorado, before that time, were skeptical to the degree that it was unanimously pronounced impossible. But in the second and third years crops of these new settlers proved sufficiently successful to be encouraging, and they doubled their acreage and increased the varieties of their crops. The rains came in season, the fields of grain continued to grow and thrive, population increased, a new people came each year into all these new counties, towns and villages, with their schools and churches and work-shops, gradually grew into existence, and in the course of time, through all of Eastern Colorado there were distributed well-defined industrial settlements, and these products forced a recognition as a part of the aggregate volume of the State's wealth. Hence, in 1887 and 1889 the new counties which are recognized as comprising the agricultural section of Eastern Colorado were organized and are known collectively as the "rain-belt" area of Colorado.

In 1890 the crops of this section were utterly destroyed by drouth. But this was the only season of such a disaster during the period of eight years, where progress has been made. The crops grown in that section are not so diversified and not nearly so productive as it is possible to make them in the irrigated portions; it is not to be expected that they grow so luxuriantly or mature so perfectly; nevertheless the crops grow and struggle through drouth and heat of this arid region and ripen for the harvest. In late years increased areas

have swollen the balance of crops from the sufficiency of home supply into a surplus for the markets. Thus the farmers of Eastern Colorado have been enabled to prove-up the claims to their lands, establish their homes, improve their farms and increase the machinery of their industrial operations. They claim a permanent abiding, with the hope and promise of future success, and now invite the immigrant farmer to stop within their borders, establish a home and become a citizen of their respective counties, offering the inducements of cheap lands and a certainty of a livelihood and a living.

The "Divide."

This singular configuration of the plains, is entitled to a place in the agricultural description of the State, being distinct in its characteristics from all other sections. Starting from the foot-hills in El Paso and Douglas counties, occupying portions of Douglas, El Paso and Elbert counties, and running from west to east a distance of more than 100 miles, and varying in width from 25 to 40 miles, is a range of hills known as the "Divide." It is so-called because it divides the eastern or plains portion of the State into its northern and southern divisions, sending the water-courses, on one side northward toward the Platte, and on the other southward toward the Arkansas river. The hills are covered with valuable timber and interspersed with numerous valleys of rich agricultural and grazing lands, the hill-sides being also cultivable and productive. The principal products are potatoes, hay and corn. Wheat, oats and barley are also grown, the latter being the more profitable crop. The land is especially well adapted to potatoes. It is a section of the country especially favored by the elements, becoming a conductor of the storm-clouds from the mountains eastward far into the plains. It is therefore visited by frequent and copious rains in the cropping season, and it is this peculiar physical feature that gives to Douglas, Elbert and a portion of El Paso county the credit of raising crops without irrigation. On account of its advantages of good water and good grazing, as well as the capacity of the soil for raising all manner of stock feed, it also becomes a suitable country for cattle, and the dairy becomes a profitable part of the general industry of the farmer. In its general topography there is much to remind one of scenes in the Eastern States, where the farm lies in the midst of the hills and valleys, the forests and the streams, those delightful poems of nature that sing sweetly through all the prosaic toils of the year.

Isolated Areas.

There are yet many farm areas that are not taken into account in the general reckoning of agricultural possibilities. These are the small farms and farming communities in a manner isolated from the agricultural divisions proper, being located in the small parks and narrow valleys of the high mountains. These farms are numerous and their products important, because furnishing an important part of the supply in their local markets. As a rule these farms produce

but little grain. In some localities the valleys are highly productive of oats. Their principal products are hay, potatoes and garden vegetables, which always command high prices in the mining districts and become a source of large profits to the producer, who also usually attaches profitable herds of cattle and other stock to his farm.

Prices of Land.

One of the first and most necessary questions asked by the newcomer and the intending immigrant, is that concerning the prices of lands. The process of occupying Government land at $1.25 per acre under the homestead entry law, is universally understood. Farm lands near the larger cities command from $50 to $150 per acre, garden $100 to $500 per acre, and can scarcely be included in the list of lands generally sought. Railroad lands can be purchased at from $3.50 to $10 per acre, in some portions ranging as high as $15. State lands, except in favored sections, have about the same range of value. The lands commanding $100 or more are under ditch, well watered and pay a handsome profit when thoroughly cultivated. They are especially valuable for small fruits and garden vegetables. Lands equally rich in soil but not so favorably located, may be purchased in the new settlements in all parts of the State at a range of from $5 to $30 per acre. In all irrigated portions the cost of water must be added to the price of all unimproved lands.

Average Yield Per Acre.

For all sections combined the average production per acre is estimated by the most careful statisticians as follows: Wheat, 22 bushels per acre; oats, 40; rye, 20; barley, 30; corn, 45; potatoes, 150; alfalfa, 4 tons; clover, 3; timothy, 2; native grasses, 1½. These averages include large areas of poor soil and also high altitudes in many counties, where short seasons and cool weather forbid certain maturity, or where in large agricultural communities the average is less than that given for the State. The capabilities of Colorado soil where fully cultivated have been amply tested by annual experiments at the State Agricultural College of Colorado. The maximum results have been as follows: Wheat, 91 bushels per acre, field crop; largest yield of rye, 52 bushels; oats, 102 bushels; potatoes (Irish), over 400 bushels to the acre; barley, 72 bushels. Corn has been made to yield 67 bushels (shelled.)

Colorado's Agricultural Exhibit at the World's Fair.

The maximum as well as the minimum and average products as represented in Colorado's agricultural exhibit at the World's Fair, are taken from among the ordinary field-crops and come from all parts of the State. Among them are sheaves of oats taken at the roots that stand 7½ feet high, the yield being 112½ bushels to the acre, and weighing 48 pounds to the bushel. The largest yield represented for oats is 136 bushels per acre, weight 35 pounds. The heaviest oats shown, weigh 52 pounds per bushel.

The most remarkable display is that of the wheat produced in various portions. Specimens taken from a forty-acre farm yield as high as 94½ bushels per acre. The largest average yield is from a farm of 800 acres, 52 bushels to the acre, weighing 62 pounds per bushel. One of the most surprising revelations made in this collection, is the great number of varieties of the leading products. Their classification shows the following:

Wheat, varieties	277
Rye	12
Barley	45
Oats	50
Corn	15
Millet	6
Buckwheat	2
Tobacco	6
Flax	3
Native grasses	125
Cultivated grasses	8

All these things show the possibilities of Colorado soil. When it is remembered that there are large areas of land of low production, the high averages as they have been reliably reported is sufficient recommendation. It places Colorado ahead of all other States in the Union for all products. But it is in the enormous figures representing some maximum yields that we find the true possibilities of Colorado soil illustrated. These great yields, in some instances representing many acres or an entire farm in different portions of the State, are the results of intense, intelligent application of labor and advanced methods, with the design of making the soil yield the best possible results and largest profits. In some instances these efforts were applied to lands where an entire county can be made to produce an average double the high average yield of the entire State. These statements doubtless will be taken as exceedingly liberal if not extravagant, but they can be verified by the most substantial evidence—the product itself with proof of its nativity.

Irrigation.

REDUCING the total area of the State to acreage, there are approximately 66,000,000 acres within its borders. The great Continental range divides this, giving about 25,000,000 acres to Western Colorado and about 40,000,000 acres to the eastern side of the mountains. According to the estimates of the State Engineer, there are about 16,000,000 acres of mountain drainage, from which the western side draws water for its 9,000,000 acres of valley and mesa lands, whereas 30,000,000 acres of plains have approximately 10,000,000 acres of mountain drainage. Thus it appears that the western side is amply provided by nature, with water supply for irrigation, while a less proportion of drainage is similarly provided for the 30,000,000 acres on the eastern side. The greater part of this immense

area is arable land, possessing wonderful fertility and capable of sustaining a dense population. From measurements it has been ascertained that over the 10,000,000 acres of mountain drainage for the eastern side there is an annual precipitation of 34 inches, 40 per cent. of which reaches the plains. This 40 per cent. would give a depth of 13 or 14 inches over 10,000,000 acres, if the total amount were distributed through irrigating canals. What with the increased moisture from seepage, as the irrigating ditches multiply, and the frequency of precipitation from evaporation, there is a gradual and natural conversion of large portions of the arid area into arable lands.

The large extension of the irrigation system thus far, while greatly increasing the cultivable areas of the plains, has resulted in the increased capacity of water, rather than the exhaustion of supply, however indisputable the fact that all material force has its natural limit. By seepage, the water, after being used, returns to the bed of the stream and becomes a new source of supply from a point where the limit of first supply may be reached. Thus the waters of the Platte valley flowing out through North-eastern Colorado, are used three times over, increasing the flow from the base of the mountains to the eastern boundary of the State 611 cubic feet per second. Upon the same principle, under the reservoir storage plan, which is fast becoming a part of the irrigation system of Colorado, the water may be repeated in its use as often as it returns to the bed of the stream.

In thus reducing irrigation to a scientific basis, both of study and experiment, it will be the work of the next ten years, to bring under cultivation the wide domain between the Rocky Mountains and the Eastern border. As the possibilities of agriculture in Colorado are limited only by the water-supply, and, as the vast domain of arable land lies ready for the plow, the logic of the problem is to so utilize the abundance of the water-supply as to distribute it upon the largest amount of this virgin soil. What has already been done in this direction has been the work of private capital, under the judicious management of the State, and the existence of 12,400 miles of irrigating canals, reclaiming 4,800,000 acres of arid land, is a startling exhibit of the gigantic strides of progress that have been made within the past twenty years. Great as this progress has been, projects of immense character are now under execution to increase the water supply and extend the cultivable area. Within the past two years, not only large additions have been made to the canal system, but numerous reservoirs, some of them of enormous capacity, have been erected in various parts of the State, and these reservoirs will afford a perpetual water-supply for many thousands of acres otherwise inaccessible to water.

The superior advantages of irrigation are manifest. The farmer can raise standard crops each successive year without failure. His lands, unlike the soil of the older states in rain countries, requires comparatively little fertilization. Ordinarily, land will hold its standard productiveness for ten years. After that, fertilization becomes

more or less a necessity. The sediment deposits by irrigation is a constant fertilizer of itself, while the yearly rotation of crops keeps the land in a healthy, productive condition. The farmer has entire control of the making of his crops after germination, inasmuch as when he needs water he can apply it as the case may require. No crop is burned up by continued drouth and none destroyed by excessive moisture. His grains, grasses and vegetables are superior in quality in not having too much, but just enough moisture at times when they most need it.

Process of Irrigation.

The following simplified description of the process of irrigation is given for the benefit of those who, living remote from the arid regions, have never witnessed the method of the distribution of water through the fields:

A large ditch or canal conveys water from one of the mountain streams, stretching out for many miles upon the plains. Leading from this main ditch at intervals—as frequent as there may be farms to irrigate—are laterals or smaller ditches, which are made to run through or alongside the farm. From these first laterals still other and smaller laterals are made to run into and across the fields, and leading from these a number of furrows are made through the fields with a plow. By these channels the water is made to flow through the land. The water turned from the main canal into the first lateral, thence into the second, and thus into the furrows, which may be 20 or even 50 feet apart, spreads over and soaks the ground till the desired moisture is obtained. By a system of gates and gauges at the head of the laterals, the water is measured as it is turned on, and any amount may be obtained, as needed. The furrows which distribute the water are run in such direction, required by the lay of the land, as will give them only a slight descent. A shovel full of earth thrown into the opening of the furrows at their junction with the small lateral, keeps them closed. When the land needs water, the little gate or sliding-board at the main canal is raised as far as needed to let in the required amount of water. This is raised or lowered as the case may require in the course of irrigating a farm. The larger furrow or second lateral being filled with water, the irrigator opens the upper ends of the little furrows by taking out a shovel full of earth. These furrows then become filled throughout their length across the field. The water seeping through and overflowing the sides of the furrows, gently trickles along over the surface and soaks into the ground. Flowing thus from each side, the waters soon unite between the furrows and thus the moisture becomes uniform and general. If it should be desirable, the farmer may remove all obstructions and by clipping off a bit of dirt at intervals, from the sides of the furrows, flood his land till the water will everywhere cover the surface. In this way a farmer can, within an hour or two, give an entire farm that which would be equal to a heavy soaking rain. This may be done so thoroughly that in some lands the crops may flourish through the

hottest season without another irrigation. These floodings are often given about the heading-out time and the result is the production of heavier, more perfect grain.

The amount of water used per acre during a season varies slightly, according to the nature of the soil, the lay of the land and its relation to the irrigation system, the new lands requiring a greater amount. By the economical use of water it is estimated that the amount required is about one cubic foot per second to fifty-three acres. This is an average, but in some parts eighty, and even one hundred acres have been irrigated with one cubic foot. The annual cost of putting water on the land by rental is from $1.50 to $2.50 per acre, which includes cost of water and needed repairs to ditch. Superior quality, higher average yield per acre and the certainty of a crop every year are the supreme advantages of irrigation.

Colorado Soil.

IN its general nature the prevailing soil of Colorado is a sandy loam. This is varied in some parts by clay, adobe and other constituents. It is everywhere rich, having a uniformity of depth on the plains, while in the bottoms or valley land it reaches from three to seven feet. In its average, Colorado soil has been found to be superior to that of all Eastern States. Analyses of Colorado soils have shown especially that they contain in ample proportions all the chemical elements that give plant life, with a source of supply from which to draw a large measure of recuperative force. It is of standard chemical authority, that soils consist of the more or less comminuted fragments of rocks, mixed with certain products of their chemical decomposition, and with some organic matter, as the debris of vegetation. The objection raised to the soil of the arid region is that sand forms too large a proportion of its component parts. In this very fact, to which exceptions are taken, lies the greatest advantage. A soil of fine sand may be highly productive, especially if it originates from easily decomposing rocks, because the amount of surface that the grains expose and the close texture of the soil maintain it in a proper degree of moisture, and allow a sufficient solution and accumulation of food for the plants; also the clay has a remarkable porosity and retentiveness for water, for ammonia and most soluble salts. Whether or not it is true that the receding waters of the great ocean in some remote period left a sedimentary deposit as a basis of our soil, it is true that through unknown ages since that period, the clouds of dust and sand which occasionally spread over the plains have been steadily sweeping down from the vast mountain area and building up the surface. Hence, in early days the plains were called the great sandy desert. But that was an error of vision

and of judgment from a lack of practical contact. These glistening grains of sand form a part of the great body of decomposed rock and mineral matter which con tribute to the soil food and vitality to plant life. The sand itself decomposes in time and becomes a chemical constituent of the soil. It will not be claimed, for these reasons, that the soil of the West is inexhaustible. All things in nature must have rest and recuperation. But experience has proved that the sandy soils of the plains are of all soils the most enduring. The water from the mountains which furnishes irrigation to the farms, serves also as a perpetual fertilizing agent. The change from the state of nature in which the human race must first have lived to the pastoral, or to any higher mode of living, must have been the work of ages. The first industrial people of whom we have mere traces of history, must have consolidated in the countries watered by the Nile, the Euphrates and the the Tigris. The sediment of slime and mud from the over-flows which make the soil of these valleys so rich is nothing less than the silt of decomposed rock and mineral, mixed with organic matter, which itself is a mass of decayed vegetation, serving the purposes of a fertilizer and a soil builder.

In Colorado we have a soil that is responsive in an extravagant degree, wherever water can be applied. It may not be so abounding in richness as the valleys of the Nile and the Euphrates, but it receives a perpetual replenishing of vitalizing elements. We have no overflows like that of the Nile, but we have a never failing supply of water by the system of irrigation, which insures uniform and never failing crops. Under this system the water serves the double purpose of irrigating and fertilizing the land. Nevertheless it is true that the soils of Colorado, like the soils of all other countries, after long use, must be renewed by rest, rotation of crops and by the application of manures and other fertilizing agents of common-place use. This silt from the mountain rocks becomes a potent factor ; but the winds and the waters contribute only nature's share, and the limits to her share fall far short of the measure of exhaustion by constant use to meet the wants and the exactions of mankind.

State School Lands.

THE land department is one of the most important branches of the State Government. Colorado owns by original grant about 3,000,000 acres of school land and 385,000 acres belonging to other grants. In addition, the State has recently acquired from the Government 655,686 acres of indemnity lands, more than half of which will soon be brought under the irrigation system. The amendment to the land laws enacted by the Legislature two years ago, renders it possible for settlers to establish homes on State lands upon a very small investment. It reads as follows: "On lands selling for

$3 50 per acre, 10 per cent. of the purchase money on the day of sale, the balance in eighteen equal annual payments at 6 per cent. per annum. Lands selling at more than $25 and less than $75 per acre, 20 per cent. cash, on day of sale, the balance in fourteen equal annual payments at 7 per cent. per annum," etc. Under this provision of law a quarter section at $3 per acre would amount to $560. Of this amount, 10 per cent. in cash would amount to $56, and, annually thereafter, the payments would be $28 per annum at 6 per cent. on the amount remaining in deferred payments after each payment made.

State school lands may also be leased at varying prices, ranging at from 5 to 50 cents per acre per season. In thus leasing, the settler is at liberty to make any manner of improvements he chooses. Should the land be sold at the expiration of the lease, the State will refund the full value of the expenditures made in such improvements. At the same time the land, by reason of these improvements, will have enhanced so much in value that the lessee, having the benefit of his improvements as part payment, will have the advantage of all rival bidders. These lands are selected in the most desirable localities for agriculture, and are becoming the nucleus of many centers of population.

Fruit Growing.

MUCH of the future wealth of Colorado will be derived from the orchard and the vineyard. The State is destined to become a rival of all fruit growing countries, not excepting California. Fruit culture has already become a permanent industry and its possibilities are great beyond even the realization of people at home. The facts concerning it are naturally incredible to people abroad. But in this, Colorado is great, as it is in so many of its separate resources. It is not a country where it is merely possible to attach an orchard of a few chosen varieties to a farm, but containing vast areas that stretch out in millions of acres, having soil and climate that are perfectly adapted to fruits of all varieties, except the citrons and other semi-tropical kinds. The period of experiment has passed. More than twenty years ago apples and the small varieties of stone fruits were grown in small orchards on the eastern side of the mountains in Northern Colorado, the trees bearing sufficiently to test the possibility of fruit culture, but a knowledge of the wide extent of country and the numerous localities susceptible to it has been a development of the past ten years. Within this period small orchards and vineyards in many parts of the State have grown into the magnitude of large fruit farms. Many of these are bearing rich harvests, and it is now only a question of sufficient time for the younger orchards in the more favored sections to mature, when Colorado will be a rival in the markets of the West by the abundance and excellent quality of her

fruits. The apple is the staple fruit and all the standard varieties are grown. For delicious flavor the peach excels the California product, and is unsurpassed by any State in the Union. Grapes of all the choice varieties have a most prolific growth in many parts of the State, and their cultivation thus far bespeaks unlimited possibilities for the vineyard. The most luscious and abundant of all small fruits is the strawberry. It grows wonderfully in all parts of the State, it is unexcelled in the world for size and sweetness, and where properly cultivated will yield from 3,000 to 4,000 quarts per acre.

The portions of the State bast adapted to fruit culture, are the tier of counties skirting the eastern base of the mountains, the mesas and broad valleys of Western Colorado, the mesas of South-western Colorado and the great stretch of plains lying along the valley of the Arkansas river. Thus we have as areas for fruit growing, the valleys of the Gunnison, the Grand and White rivers in Western Colorado, the Mancos and the Animas in South-western Colorado, the great Arkansas River valley, and the counties of Arapahoe, Jefferson, Boulder, Larimer and Weld on the eastern side, as first-class fruit-growing sections, the combined area being larger than the entire State of Ohio. The counties above named, together with Fremont county on the upper Arkansas, embrace the old or first established fruit-growing sections. Fremont county is famous by reason of its age and prestige for the variety and excellence of its fruits. In the remainder of the Arkansas valley, embracing Pueblo, Bent, Otero and Prowers counties, the orchards have scarcely grown out of the nursery, having just passed the first years of their bearing, but prove every possibility of fruit culture, possessing every adaptation of soil, climate, water and lay of the land. The few years of experiment prove the eminent success of the orchard and vineyard. The valleys of the western side embrace the fruit-growing counties of Mesa, Delta, Montrose and Garfield, which, having an existence as a white settlement only during the past twelve years, have become famous during the past three years as a great fruit-growing section of the State. Different parts of the State, while producing all varieties, have a special adaptation to one or more kinds of fruit. The western side is called the home of the peach, the eastern side that of the apple. Grapes, however, have a prolific growth in all fruit-growing sections. This especial adaptation is marked in a splendid new fruit-growing section in Arapahoe county, embracing a large area of up-lands along Cherry creek valley, beginning in the suburbs of Denver, and stretching twenty-five miles to the South, watered by the great Castlewood reservoir. While all kinds of fruit can be successfully grown in this section, the tender varieties of small fruits being especially prolific, the soil possesses special adaptation to apples, pears, plums and cherries, and these grow in wonderful abundance. In the "foot-hill" counties of Northern Colorado, above named, the apple and the small fruits, leading with the strawberry and also the grape, are

the most profitable crops, though the pear and the small stone fruits form a large part of the orchard.

The commercial advantages of fruit culture in Colorado are very great. Many of the surrounding States and Territories produce little fruit of any kind, with no prospect of doing so. The central markets of Colorado have become large distributing points for foreign fruits, while the local consumption is enormous. It is a near probability that all this local demand may be supplied with home-raised fruits, and in time it will be possible for Colorado to supply a large part of the demand from neighboring States.

The Mining Industry.

IT is not sufficient to say that Colorado is the leading producer of gold and silver in America. In all countries possessing the precious metals, the permanency and profit of the mining industry become questions of first importance. The history of mining in any particular State or section of country is of little moment, except as it may serve to illustrate future possibilities. The greatest of all concerns is a knowledge of the extent and nature of the mineral formations. Such knowledge, as it has come to light through discovery and development within the brief period of the past ten years demonstrate the illimitable possibilities of mining in Colorado.

From 1859, the year of first discoveries, to 1870, the year of the first railway in the State, the value of all precious metals produced in Colorado was $27,500,000. In 1878 the production was $9,282,191. The period between that year and the present marks the era of true development in the mining industry of the State. From the first record of production in 1859 to the close of 1892, the total output from the mines approximates in value $400,000,000. The value of the total output in bullion (gold, silver, copper and lead), for the past two years was as follows, silver in 1891 having an average value of 0.9855, and in 1892 its average value being 0.8300:

1891	Value of output	$ 33,548,934
1892	" " "	32,342,571

The figures representing the annual increases for a period of successive years show more particularly the result of increased effort in the field of operation than as an indication of the immense mineral resources of the State, unless such figures are coupled with the history of marvelous discoveries that have been made in recent times, each new find leading to still greater successes in the field of discovery. In 1871, the total value of the output of gold and silver in the State was only $3,029,000. In 1891 the value of gold and silver was approximately $28,000,000; of lead, $5,050,000 and copper $600,000, making an approximate total of $33,500,000 for that year.

For the thirteen years which have followed the carbonate discoveries at Leadville, the mines of that great camp have given an annual average production of $12,000,000 in gold, silver, copper and lead, starting out in 1871 with a yield of $10,333,700, its production for the past year being about that amount. While these figures show that Leadville has steadily represented nearly one-half of the State's mineral production for a period, all the older districts have increased in wealth; and among the large number of discoveries that have been made in new mineral fields, that camp has two very close rivals, which in future years will swell the volume of the State's production to proportions which, as a prediction merely, would seem incredible. But the practical miner and the geologist who have learned a little of the formations at Aspen and Creede can demonstrate that the former, through development, and the latter through more extensive explorations, may produce fabulous treasures for centuries to come. Aspen, closely following Leadville in the history of its establishment, was from the beginning known to be great in riches. Its proud position of second place with a record of $7,000,000 production, is the result of persistent effort and improved methods of development within the past three years. The record of this camp is made almost exclusively on the development of well-known mines, while there are hundreds of new ones in the district having great promise.

Creede has a history of less than two years. With its limited development to be taken into account, it is one of the greatest producers of silver in the world. In its recent monthly reports of output it now takes rank with Leadville. It is claimed by geologists that this camp at some point within twelve miles of Creede possesses the mother vein. If this be true, it is a camp with no limit to its resource within the knowledge or practical research of man.

Leadville, after all its yield of wealth, has reached the point of still greater discovery deep down in its mines, and is now growing richer in this new field of exploration, while there are still many undeveloped mines just beginning to contribute their share of wealth. These three districts are conspicuously illustrative of the permanent character of the mining industry of Colorado. The simple mention of the many mines in the districts that are known to be rich and awaiting development would make the material of a book. The older mines continue to be the reliable sources of wealth. The new ones form that great reserve of wealth that cannot be reckoned and no words can properly express the appalling measure. The pioneer counties of Clear Creek, with its deep mines and its silver, and Gilpin, with its quota of gold, continue to contribute their share of treasure, with no sign of decrease. Within the past few years also many rich discoveries of gold have been made in the great silver-producing district of Ouray, in that part of Colorado known as the Silvery San Juan, so-called because the entire country, embracing the counties of Ouray, San Juan, San Miguel, Dolores and LaPlata, is a vast field of mineral, where every mountain is striped with fissure veins, laden

with silver. In Ouray county the true value of the mines has been proved since, within the past few years, the railway has reached the center of the great mining camp. This is likewise true of San Juan, San Miguel and Dolores counties, where the mines by the hundreds have just reached the stage of profitable development. In all these counties the new and undeveloped mines, rich beyond all calculation, predominate, while old mines grow richer in production as the miner delves toward the unknown and mysterious depths in search of the hidden treasure. Boulder county, among the oldest of mining districts, has within the past two years brought to the fore some new discoveries that are great in wealth, while the old mines have yielded increased treasure.

The discovery of the great Cripple Creek gold district, which is almost coincident with that of Creede, is another illustration of the progress of mining in its primary stage of development. It is known as one of the rich mining districts of the State, with great yield of precious metals, while it is true that the mines of largest development have scarcely been opened. In respect of its importance so far as mere discovery goes, it is analogous to Creede in that, from the beginning, it attracted throngs of mining people who immediately possessed themselves of mineral locations, built towns and began to produce the precious metals, many persons establishing their fortunes. These things have occurred within less than two years past. In less than six months after its establishment, a railroad branch terminated at the center of Creede Camp, connecting it with all centers of the State. So important is Cripple Creek that a railway to ramify that district, is now under construction. In both camps large capital is invested, the most modern and costly machinery brought into service, and operations on a grand scale are in progress upon the comparatively few mines that have any development worthy of note. This is a fact, the more important because of the great number of prospects that will in future years be ranked among the rich producers of the State.

But of other sections in many parts of the State that have not yet attained prominence, it can truthfully be said that they are likewise rich in prospects. The mountains of the Western Slope for the most part have been explored only to the extent that they are known to possess immense wealth of mineral treasure, as yet undeveloped.

The meagre facts and figures above presented, are designed to show the limited development thus far, relative to the vast area embraced within the mineral belt of the State, for within this belt there are many rich mining districts yet to be discovered, and many rich mines yet to be developed in the districts that have been explored in years past. It has been the history of many of the richest mines of the State that in the first stages of their development they were regarded as of little or no value and often abandoned by the original locators. There are many thousands of such prospects in the State, and they await only the same application of genius and labor that has brought so many millions of treasure out of the Rocky Mountains in

the past ten years. Prior to 1879, the mining enterprise of Colorado was mainly the effort of discovery. The few years which have elapsed since that time, it has been shown, has been a period of development. That this development work has only a fair beginning, is a self-evident truth. The deeper the mines are worked the broader the scope of development and the greater the amount of gold and silver extracted, while the most encouraging results are obtained from the beginning of development work on many of the new properties. These prospects, scattered throughout the mining districts of the State, represent to-day the same situation in mining that gave to the industry its great impetus in 1879-80. In this great aggregation of mere prospects is the assurance of treasure for the centuries to come. In the mining industry this is the main opportunity for the capitalist or the immigrant seeking fortune in Colorado. Among the greatest advantages to mining in Colorado is that of railway construction. The greater part is of recent years. With the exception of Gilpin and Clear Creek counties, the mining districts of the State were entirely without railroads prior to 1879-80. Now, the State is fretted with these lines of steel, reaching every important mining camp thus far developed in Colorado. The introduction of all manner of improved and powerful machinery has also caused a revolution in the mining industry. Great profit has thus been added by the easier mining and successful treatment of low grade ores, and in many parts it is appreciated that ores are now mined at a cost of cents where formerly it was dollars. The wealthiest capitalists of Colorado are those who have made their fortunes out of mining. Being the first of all industries to attract population, it has built cities in the mountains and on the plains; was the first motive power in the development of the coal and iron resources of the State; led to the establishment of manufactories and has aided in the advancement of every industry in Colorado.

There seems to be a providence in the history of mining in Colorado, as it has appeared in the history of mining throughout the West since the days of the first gold discovery in California. Immediately following the first discoveries of gold in California, the gold fever broke out among the people of America. The contagion was the natural consequence of an unhealthy and unstable financial condition wherein there was a demand for universal remedy. That remedy was needed in its application to the whole people of America. It was the great impetus that set the people in motion toward the industrial conquest of the West and the production of gold, that came as a result of the feverish agitation, palliated the sufferings of America's many millions by giving them a sound currency. As one of the immediate results, the tide of Western immigration began to ebb and flow. First rolling across the continent from the Atlantic to the Pacific, it surged back again, covering the broad country of mountains and valleys with civilized habitations, and set the wheels of industry in motion.

In more recent years the development of silver gave new impetus to industrial life, and the great tidal wave of Western immigration came once more. The great discoveries of silver that have been made since 1859 have a more significant meaning than merely the progress of the mining countries in their industrial affairs. It meant in the outstart a ready and providential means of relieving the Nation from its distress incident to and closely following the great civil war; and, of greater importance still, by adding to the volume of the Nation's currency its immense treasure of coin, it has given relief, employment and prosperity to millions of people, thus lifted from a condition of want, and, greater than all results, bringing to the western half of the continent the most marvelous progress in industrial development ever witnessed in the world.

Now it transpires in the midst of a political crisis which threatens calamity to the silver industry and to the people of the Nation as well, that the new gold fields have been discovered in Colorado. In the very primary stages of their development, large yields of gold are being made, while new discoveries are reported almost every day. At the present rate of production, when added to that of other gold-producing districts, the yield of gold in Colorado in 1893 will run high up in the millions. It seems also to be one of those providential dispensations in the affairs of man that other mining States are equally fortunate, and that with their combined wealth of gold and silver the great coin-producing West will be equipped to meet every exigency in the present problem of the world, and naturally force a settlement of the financial question in favor of the American people.

Manufacturing in Colorado.

THERE are two principal manufacturing points in Colorado—Denver and Pueblo—the leading cities of the State. In five other cities of less magnitude, young establishments of various manufacture are thriving and give great promise for the future. In all the centers of population there are various kinds of productive enterprises, of which the articles created may properly be classed as manufactures. Colorado is scarcely known beyond its borders as a manufacturing State, yet the statistics from all reliable sources give an approximate value of $70,000,000, to the products manufactured in 1892. It must be understood, however, that this large figure represents the products of the smelters and the oil refineries, the former reaching far into the millions, forming nearly one-half of the total value, the latter supplying the State and other markets with refined and lubricating oils, adding not less than $2,000,000 to the total value of the annual output of manufactures. When it is considered that Colorado is but a youth in statehood, with an age of sixteen years, and having

a population of little less than half a million, these figures appear extravagant. They would be ridiculously so, were it pretended that they represent the products of leading manufactures, such as give industrial strength to all manufacturing States or countries. Each leading industry is followed by a train of kindred enterprises, however small, but so numerous and so diversified that the estimated value of product is within the limits of reasonable calculation. The metal industry, which takes first rank, is a giant in its infancy, representing an annual product of $10,000,000, of which $5,000,000 is drawn annually from the manufacture of iron and steel. All other manufactures embrace a long list of miscellaneous industries, that draw upon and bring to view the most wonderful diversity and abundance of raw material known to exist in combination in any country of the world. The development of these resources and the operations in manufacture from from them thus far, though embraciug 740 establishments, employing 20,000 people, a capital of $24,000,000, and supplying a large foreign, as well as the natural home demand, is but the beginning of a great era of manufacturing in Colorado. The mere statement of volume and value of manufactures, even after making all allowance for the youth and small population of the State, is of little significance until the facts are made known concerning the great variety and immeasurable, incalculable supply of raw material from which these products come. Then there arise questions concerning the facitities for utilizing these materials, the cost and profit of manufacture and the market demand for the manufactured products Colorado possesses every advantage for the most favorable answers to all these and kindred questions.

First in importance among these vast resources is iron, which exists in great masses in many parts of the State, conveniently located and easily accessible by railways from the principal manufacturing centers and possesing all the qualities requisite for the finest Bessemer steel, as demonstrated by the large iron and steel works which have been in operation at Pueblo for the past ten years. Then follows a large list of materials embracing lead, copper, zinc, common clays, fire-clays, plastic clays, silica, lime, cement, gypsum, wood, stone, granite, marble, onyx, mineral paint, kaolin, cryolite, and an innumerable variety of commercial and manufactural minerals. The products of the farm, the range and the dairy must also be taken into account as among the sources of supply, the wool and hide interests alone forming the basis of great prospective manufacture. Nature has endowed the State with every possible advantage of manufacture. An abundance of coal, wood, stone, water-power and all other requisites distributed throughout the State in close proximity to the great iron beds and equally convenient to all the great deposits of raw material embraced in the list of manufactural resource. Natural gas has also been discovered in many parts, and that source of wealth and power only awaits the day when its proper development is required. Thus nature has brought together every material and convenience for

varied and extensive manufacture, and nothing is needed but the people, the capital and the skilled labor to build and expand upon the broad foundation already laid in the young establishments, which have begun to utilize these vast resources.

Naturally, the first question which arises, is that concerning the markets for Colorado products. It will be seen by a glance at the map of the United States that Colorado occupies nearest the central position among States west of the Mississippi River, and becomes the great railway inlet and outlet between the two oceans and between British America and the Gulf of Mexico. Geographically it is the great western center of traffic and travel, ramified by nine main lines of railway and their numerous branches, which give to it direct communication with all the States and Territories of the Continent. This great western country, which forms the larger part of the Nation, is rapidly being filled with an industrial population. No State of this section possesses so great a variety of resources. From these Western States there is now and will ever be an increasing demand for such wares as can be produced without limit in Colorado. While it may be true that in many lines of established manufacture, the demand may for the present be limited to home supply, the time is drawing near when Colorado must be prepared to meet the requisitions from all these surrounding States and Territories. Increased capacity of the present manufactories and the establishment of many new industries are the works now needed to anticipate the requirements of a growing new country. The greatest industrial strength of Colorado lies in the certainty of such a future, coupled with her great reserve of material resource, which awaits only the time when it is most needed. For the present, in many of the industries of Colorado which have thus far depended upon home patronage for maintenance, there is the keenest competition and people abroad are not advised to leave their moorings and enter this field, unless it be with the purpose of expansion for future operations. But there are opportunities for many new industries in Colorado, where men of practical experience and adequate capital, would have greater possibilities than in any part of America.

Manufactories in Denver

Recent official statistics of manufacture in Denver, (compiled by the Manufacturers' Exchange,) which probably represents every line, except that of iron and steel manufacture, which is thus far confined to Pueblo, show a surprising array of industries in operation, or under process of construction, among the latter a steel rolling-mill, which will be the largest establishment of the kind west of Chicago. The following is a tabulated summary of these manufactories embracing hundreds of establishments and scores of varieties of manufactured goods and wares.

SUMMARY.

INDUSTRIES.	EMPLOYES.	WAGES.	OUTPUT.
Chemicals	20	$ 20,000	$ 80,000
Clay	1,950	763,000	1,300,000
Food	1,237	702,600	6,609,500
Leather	97	65,500	273,000
Metal	959	776,300	2,522,000
Paper, etc	1,667	993,640	2,260,000
Sewing	795	336,000	1,240,000
Smelting, etc	1,401	1,272,695	22,061,123
Soap	70	65,000	500,000
Stone	825	1,022,500	2,035,000
Textile	252	79,000	237,000
Wood, etc	1,108	862,500	2,630,000
Miscellaneous	2,254	1,578,129	3,823,992
	12,635	$ 8,530,864	$ 45,571,615

The clay and metal industries are foremost in their importance for manufacture from native raw material, the paper industry taking rank with them because of the establishment in 1891 of the Denver Paper mills, which supplies a large part of the Western demand for printing paper. It is questionable whether any other given area of the same size in the United States has clay in equal quantity, quality and variety as the vicinity of Golden, fifteen miles west of Denver, and lying immediately in the base of the foot-hills. The same ledges furnish both plastic and fire-clays. These deposits are the main source of supply for the pressed brick, Roman tile, fire-brick, fire-clay goods and sewer-pipe made at, or, near Denver. Similar beds also exist near Boulder and Morrison, while in the suburbs of Denver there are forty-two yards making common brick from local material, averaging 125,000,000 brick per annum, representing a value of $750,000. The pressed brick industry is represented by five companies and the bricks are made in all shades of color to meet any architectural demand. Various styles of building tiles are also made. The local output of fire-brick exceeds 3,000,000 per annum and the bricks are shipped throughout Colorado, New Mexico, Old Mexico, Arizona, Wyoming, Idaho, Utah, Montana, and even as far as Portland, Oregon, where they realize double the price of English imported fire-brick. Fire-clay roofing tile is one of the features of manufacture from the Golden clays, and superior paving bricks of Denver manufacture have been satisfactorily tested on the streets of the city. Sewer pipe is extensively manufactured from these clays, supplying the Colorado market and shipping to Utah, Wyoming and New Mexico. The Colorado market and the principal mining districts of the West are supplied with assayers' supplies from the fire-clays of this section, and these goods because of their superior quality are also sent to Old Mexico and South America. Floor tiling is also a specialty. The excellence of the local clays and the growing importance of the home market, has led to the establishment of two potteries, making stoneware, etc. A third plant makes flower pots only.

The manufacture of food products consists of canned goods—vegetables, fruits and meats—crackers, flour, maccaroni, packing-house products, pickles and sauces, vinegar, and there are a number of large establishments for these various articles of supply, the value of the annual product of one packing-house being $2,300,000 according to the production of 1892.

The leather industry shows merely the great advantages offered for an extensive tannery in Denver, with an average of 75,000 hides that could be annually utilized, but which are now shipped to Eastern markets.

In the metal industry there are some very extensive works, such as art metal and wire works, foundries, machine shops for engines and boilers, brass founderies, builders' hardware, plating, sheet metal works, tinware, stoves, etc. One large stove foundry in Denver, manufactures modern patterns in large part from Colorado iron, but other establishments use little of the native material for want of facilities for making the native pig. The company also does general foundry work.

The Denver Steel Rolling-Mill company was organized last year for the purpose of manufacturing barbed wire, wire nails, cotton ties and staples, and later on wire cables, copper rods, copper wire and shovels. The plant will consist of eleven buildings, of which five, viz: the wire-drawing mill, the nail mill, the barbed wire mill, the boiler and engine house, and office building, are already finished. The new factory will have a capacity of about five cars per day for all products. The company will start in with about 150 employés, and when running to the full capacity will employ from 400 to 500 men.

In December, 1892, the Denver Paper mills, situated near Denver, were completed at a cost of $370,000 for the production of news print paper. These mills now supply many of the newspapers of Denver, and meet many demands from other Western States, the value of the annual product having already reached a rate of $320,000. The paper is made from the white spruce wood of Colorado. This paper, besides reaching throughout Colorado, finds a large sale in Washington, Dakota, Arizona, Texas, Utah, Wyoming, Kansas and Nebraska. In addition, the manager is now erecting a mill for the manufacture of book and letter paper, which, when completed, will be the largest single mill for that purpose in the United States, and will cost $500,000. A still further addition will be a large mill, under the name of The Denver Sulphide Fiber Company, for the conversion of wood into pulp, by the soda process and the manufacture of manillas and other wrapping paper and also roofing and flooring paper. The three plants will cost an aggregate of $750,009, and the works in operation will represent a cash investment of $2,000,000. This pamphlet is printed on paper manufactured by the Denver Paper mill.

The value of the product from the Denver smelters in 1892, in gold, silver, lead and copper, was $21,934,623.

The manufacture of textile fabrics is in its infancy in Denver. It is only three years since the first of the existing factories commenced, and there are as yet but three of them, viz.: a cotton factory, employing 221 people; a knitting and blanket mill, employing twenty-five; and a small factory producing tassels, fringes and general passamenterie. The Overland Cotton mill commenced operations late in 1891, and manufactures sheetings, drills, ducks and canton flannel and besides having a good home market, ships extensively throughout the entire country, lying between the Missouri river and the Pacific. The Hitchcock Woolen mills manufacture ladies' and gents' fine underwear and blankets, using Colorado wool of the finer kinds for the medium goods and the coarser wool for blankets, the sales of which practically demonstrating the broad field opened in Colorado for the wool industry.

The year 1892 has been marked by manufacturing developments in Denver, and is but another demonstration of Denver's destiny to be the great manufacturing center of the whole Trans-Missouri country on account of her central location, possession of cheap coal and varied raw materials, good railroad collecting and distributing facilities, fine climate, and plenty of intelligent white labor practically at Eastern prices. Denver still needs and presents good opportunities for the following industries: A malleable iron plant, a steel foundry, a plant for the manufacture of horse shoes, a plant making iron soil pipe for plumbers, gas fixtures, etc., an agricultural implement works, woolen mills making the cheaper and medium grades of blankets, also cassimeres, general men's suitings and women's dress goods, a carpet factory utilizing Western wool, a knitting factory making medium grades of underwear, a stocking factory, a factory making cotton rope, twine, etc., a silk factory, a window shade factory, a wool pulling factory and sheep-skin tannery, a leather glove factory, a fabric glove factory, a silverware factory, utilizing local silver, an envelope factory, a hat factory, a bellows factory, a glue factory, factories making mens' and boys' shoes and the heavy grades of laborers' boots and shoes, a linseed oil mill, a window and plate glass factory, pottery making queensware, etc., a beet sugar factory.

Pueblo Manufactories.

The natural advantages favoring Pueblo as a manufacturing city are many. Among the most prominent is her location as regards convenience to the vast mineral wealth of the greater portion of the States, the abundance of cheap coal for fuel, the vast deposits of valuable clays and stone in close proximity to the city, the Great Arkansas Valley capable of producing untold quantities of raw material for use in manufacturing; the great water-power afforded by a fall of seventeen feet to the mile, of the Arkansas river at Pueblo, and also the significant fact that all these vast resources, lying within Pueblo's easy reach are drawn to her by her railroads which lead out in eleven directions. And she is so located in this valley that every

incoming train from whatever direction has a "down hill pull" to her very gates. The development of manufacturing industries in Pueblo has been phenomenal. Pueblo certainly presents abundant opportunities for the profitable investment of capital.

The following facts and figures which have been carefully compiled, give the present capital, number of employés, annual product and pay-roll of its industries:

Capital invested	$14,457,025 00
Value of product (including smelter)	30,234,775 00
Annual pay-roll	7,497,222 00
Average monthly pay-roll	624,768 50
Number of men employed	8,738 00

The iron and steel working concerns of Pueblo, which utilize the iron ore product of the State at present, number about one dozen, and include steel works, iron and brass foundries, rolling mills, spike and bolt works, boiler works, machine shops, wire works, iron water pipe works, mining machinery and car repair shops, and iron bridge works. These are the institutions which have given Pueblo the title which she so justly bears—"The Pittsburg of the West." The magnitude of these iron and steel industries will be better understood when the fact is known that they employ over 2,000 men and have an annual pay-roll of over $1,600,000 while the annual product is over $5,000,000. These institutions do a large business throughout the greater portion of all the Western States and Territories, from the Missouri river to the Pacific coast. The great Bessemer Steel plant is one of the largest and most complete plants of the kind in the Union, covering over forty-seven acres of land, and has a capital and surplus of over $3,200,000, while over 1,500 men are constantly employed, the works running night and day the year round. This company manufactures all sizes and sections of railroad steel rails, merchant bar iron, merchant steel, railroad spikes, nuts and bolts, Bessemer and foundry pig iron of all grades, speigleism and ferro manganese. The company also produces many millions of pounds of iron ore per annum from its iron mines in the mountains not many miles west of the city.

The production of railroad steel rails, merchant steel, merchant bar iron, pig, etc., during the year 1892, was over 170,000 tons, while recently another immense furnace has been added, and the capacity of the works has been enlarged in all ways, and further improvements are projected and are being carried out. This company recently took a large contract for steel rails as far east as the Missouri river. Among the other large plants in the iron and steel line, are the large mining machinery works, with a paid-up capital of $250,000, foundry and machine shops, boiler works, brass foundry, etc., etc.

Oil refining and parafine have become leading industries of the State. The extensive operations carried on in this line in Pueblo, necessitates the employment of nearly 250 men, with an annual pay-roll of $140,000, while the capital invested is $1,120,000, with an annual output of about $1,200,000. The Rocky Mountain Oil Com-

pany has a paid-up capital of $1,000,000. The company's oil field is located near Florence, Colo., where they produce their oil, having put down thirty wells and are putting down others at the rate of two per month. The company owns its own pipe-line (thirty miles in length) from Florence to Overton, a suburb of Pueblo, and here is located on a tract of sixty acres of land, its refinery, which is one of the most complete in the country. Here are manufactured from the crude oil of Colorado, all the varieties of illuminating and lubricating oils known to the art. Also parafine wax candles and coke, while the company will soon add the manufacturing of electric carbons, the raw material for which is produced from their tar stills. In addition to these, chewing gum and toilet articles, such as vasaline, toilet soaps, axle grease, etc. will be manufactured here. The output of the company in finished products at present is $750,000 per annum. The annual output of crude oil is 20,000,000 gallons; product of illuminating oil, 8,000,000 gallons; various grades of lubricating oils, 8,000,000 gallons.

The Continental Oil Company is also doing an extensive business, handling many kinds of illuminating and lubricating oils and gasoline. Their trade also extending over a large territory. Pueblo has long been noted for her extensive smelting and refining works. There are now four smelting plants in Pueblo, and about 1,000 men employed by these establishments. During the year 1892, these smelters produced gold, silver and copper to the value $11,760,918.23, representing nearly 400,000 tons of ore.

There are two very ample reasons why there is located at Pueblo numerous extensive establishments manufacturing pressed brick, also fire-brick, and in fact all classes of brick, also fire and coke oven tile, crucibles, scarifyers, mufflers, etc. etc., also plain and fancy pottery. These reasons are: First, that near or within easy reach of the city, is a great variety of clays of high commercial value, and these have naturally drawn the artisan. Second, the home market demands for all manufactured products of clay have drawn capital for the development of this vast natural resource.

The home market is created by the large number of brick buildings constantly being built in the city, and in fact in all the cities and towns in the State, and also by the numerous coke ovens and smelters in Colorado and other States. There are at present about one dozen brick manufacturies in the immediate vicinity of Pueblo, with about 300 employes and a pay-roll of $200,000. The combined paid-up capital of these industries is about $350,000, and the value of their product is about $1,350,000, representing an annual output of about 40,000,000 pressed brick, 10,000,000 fire-brick, 7,000 tons of coke oven tile and furnace linings, and 15,000,000 common and stock brick.

In addition to the foregoing there are manufactured in Pueblo various products of leather, of lumber into fine office furniture, brooms, and brushes, candles, cement plaster, electric light carbons,

electrical supplies, candies, carriages, wagons, carts, furnaces, jewelry, horse-radish sauce, trunks, valises, tar products, toilet articles, awnings, wagon covers, stencils, seals, clothing, carpets, quilts, mattresses, carbonated beverages, cigars, confectionery, pottery, stoneware, tents, blank books, iron cornice, harness, ice, bottled goods, and many others. Other establishments of a miscellaneous character ship large quantities of goods to the adjoining States and Territories, in addition to supplying the local demand.

In El Paso County.

That portion of El Paso county immediately surrounding Colorado Springs and Manitou is rich in materials for manufacture, and considerable effort has been made in this direction during the past few years. These resources consist mainly of clays, sands and silica, stones and minerals. The clays are utilized in Colorado Springs in the manufacture of pottery and various kinds of brick, while the principal manufactures are located at Colorado City, a suburb adjoining Colorado Springs and having a population of 4,000. Here is located an extensive glass works plant which disburses $20,000 per month in wages to its employés. The principal manufacture of this establishment is light green hollow ware and bottles for the Manitou mineral water. The latter is a special and exclusive branch of the industry. The waters of Manitou Springs as they gush from the deep rocks at the base of the mountain, are so highly charged with carbonic acid gas, that no bottle made elsewhere is found strong enough to contain them. Bottles of certain thickness and of material assuring certain strength only are considered safe for this water. All the materials requisite are found within close proximity to the Springs, and the bottles are made at this factory only two and a half miles distant from them. An additional plant has been established for the manufacture of flint glass, the materials for which are close at hand, and among the recent discoveries near by is an immense deposit of cryolite, in which it is expected to find the elements for clear and merchantable glass. A building has been constructed for the extraction of these elements and the production of aluminum is one of the possibilities of manufacture at this plant. A large machine shop has been erected in connection with the glass works and various smaller industries are conducted in the town. Colorado City is an eligible site for manufacture of various kinds, with an inestimable abundance of the raw materials in great variety at its very doors and for many miles around.

In Las Animas.

The principal manufactories of Las Animas county, are located in Trinidad, which is conveniently situated to coal, iron, wood, stoneclays and other manufactured minerals. Principal establishments: One rolling-mill, one foundry, two smelters, three flouring mills, one planing-mill, four stone quarries, five saw-mills, one cement plant. Estimated capital invested, $300,000; value of annual output, $250,000. The leading advantages of manufacture are unlimited supply

of coal delivered to manufacturers at $1 per ton, a great variety of raw materials and the highest cash market in the State for manufactured products. There are ten coal mines in operation near Trinidad, and coking is a large industry at that place. Number of ovens, 650; men employed, 700; capital invested, $390,000; output in 1882, tons, 201,177. The manufactories most needed are woolen mills, tanneries, beef canning, glass works, brick yards, cotton mills and other establishments to utilize the cheap fuel and raw material so abundant.

Other Manufacturing Points.

The town of Golden, in Jefferson county, is situated in the midst of the largest and most varied known deposits of manufactured clays in the State, and the local manufactures from these resources are fire-brick, pressed brick, tiling, pottery, plaster of paris, sewer pipe, stoneware, calcined fire-clay, etc. Among other manufactures of Golden, are paper, lead pig, lime, wagons, beer, ale and porter.

The City of Boulder, in Boulder county, possesses an iron foundry, machine shop, clay pipe factory, a brewery, three planing-mills and a number of smaller industries, while an extensive canning factory is among the industries at Longmont, in the same county.

The City of Durango, in La Plata county, has taken the initial steps toward utilizing a few of the many resources of raw material in South-western Colorado, and has in operation a number of establishments other than smelters representing important productive enterprises. The Durango Iron Works, with a capital of $50,000, employs fifteen men, with an annual pay-roll of $15,000. The main building is 40x150 feet, with a foundry addition of 40x160 feet. It has two cupalos, brass furnace and all necessary equipments for a first-class foundry. Two flouring mills annually convert 250,000 bushels of wheat into flour. Two pressed brick establishments have a capacity for the manufacture of $80,000 brick per day, employing a capital of $45,000. Lime, plaster, charcoal, planing-mills and saw-mills are among the establishments for manufacture, and are important in the value of their output. Durango has four smelters for the treatment of the high and low grade ores of the great San Juan region, employing hundreds of men and producing millions in bullion and other smelter products.

In addition to the extensive manufacture of lubricating oils and other products from the great petroleum field at Florence, half a million dollars are invested in various manufactories at Cañon City, Fremont county, drawing mostly upon the resource of native raw material. Such establishments embrace a roller process mill, a canning factory, machine and boiler works, carriage works, brick and tile manufactory, mineral springs bottling works, a cigar factory and other small establishments.

Colorado's Great Coal Fields.

IN the great coal measures of Colorado there is a fuel supply for unknown centuries to come. Estimates based upon official geological surveys, under both the United States and the State governments, have placed the coal-bearing area of Colorado at varying figures, from 25,000 to 40,000 square miles. The most recent estimate, made as the result of actual geological measurement by Prof. A. C. Hills, of Colorado, gives an area of 18,100 square miles as the available capacity of the coal fields, distributed over the State as follows:

ESTIMATED AREA OF COLORADO COAL FIELDS.

	Square Miles.
Grand River Field (Western Colorado)	6,950
Yampa River Field (Northwestern Colorado including part of Wyoming	1,100
LaPlata Field (Southern Colorado)	1,250
Raton Field (Southeastern Colorado)	1,300
Northern Colorado Field	6,800
North Park Field	300
South Park (Cañon City and Tongue Mesa district—Central)	100
Dakota Measures (South-western Colorado	300
Total	18,100

ESTIMATED AVAILABLE COAL.

[By the term "available" is meant the area accessible to mining and transportion, according to present methods and facilities, and forms only one-eighth of the total area containing coal deposits.]

	Available gross tonnage.
Grand river	26,384,800,000
Yampa Field	5,961,500,000
La Plata Field	3,387,200,000
Raton Field	4,490,200,000
Northern Colorado Field	10,000,000,000
North Park Field	2,568,600,000
Cañon City, South Park Field	429,000,000
Dakota Measures	169,300,000
Estimated available tonnage	55,197,100,000

According to the foregoing figures, the States which rank Colorado in area of coal land are Illinois, with 36,000 square miles, and Missouri with its estimated 26,887 square miles. Pennsylvania has only a little more than half the area, while Colorado divides honors with Iowa for third rank. This immense area embraces all varieties of coal, each in great abundance, including two extensive districts thus far discovered of the finest anthracite, while the best of lignites predominate in all parts of the State, with numerous deposits of bituminous and semi-bituminous coals. Prices of coal at the principal markets range as follows, retail: Anthracite, $9.25 per ton; bituminous, $5; lignites, $3.50@$4.50 per ton; coal for furnace, $1 to $2 per ton, according to location.

The average thickness of the coal seams now being worked is 5 feet, 5 inches; the thickest, 45 feet; the thinnest, 1 foot, 8 inches. The average price paid miners for digging and loading coal and tim-

bering the working places is from 65 to 75 cents per ton, screened coal. The average cost of producing the coal on cars, including royalty, is about $1.70. Number of men engaged in coal mining in the State, 6,164; average annual wages, $4,905,159, estimated. Estimated total output for 1892, 3,358,000 tons.

Stone and Marble.

ANY attempt to compute the enormous quantity of useful stone in Colorado would be futile. The figures representing calculations upon weights and measures, would exhaust all the minerals within the comprehension of the human mind. Sand-stones, lime, lava rock, granite and marble abound everywhere from the eastern foot-hills to the western extremity of the Rocky Mountains. Quarries are numerous on every line of railway through the mountains. Marble of finest quality and of all colors exists at many places, and in one county alone, the beds are said by experienced quarrymen to be inexhaustible. The stones are of the most durable kind and of every known color and texture, classified as red sand-stone, gray, pink, white and yellow sand-stone, lime-rock, lava-rock and other varieties, together with the granites of many shades and colors. These building stones are used in Colorado to the exclusion of all other stones, and are coming into great demand in many parts of the country. The solidity of the stones and their beautiful colors make them everywhere desirable, and their transportation has become an important part of railway traffic. The stone buildings of Denver and other Colorado cities are uniformly unique and beautiful. There have been immense quantities of the finest flagging, dimension, bridge and pier stone, marble and paving blocks taken from the Colorado quarries and sent to Kansas City, Salt Lake City, St. Louis, Omaha and Chicago. The rapid growth of building in the State, together with the increased demand abroad is daily widening the scope of the stone business, which is already an industry of great proportions, giving occupation and maintenance to thousands of people. As yet there is but little development in marble, but in this material in due time Colorado will rival the world.

The Live Stock Industry.

Cattle.

UNDER the present changed conditions due to agricultural development a peculiar interest attaches to the live-stock industry of Colorado. Cattle raising had its beginning with the first settlements in the State, and continues in the lead, a source of considerable revenue and giving employment to many people.

Nearly all the wide expanse of plains and valleys was the undisputed domain of the cattle king, and the business was conducted almost exclusively upon the ranges that covered a territory sufficient for a vast empire. For many years the estimated number of cattle in Colorado was 1,500,000 head, three-fourths of this number being the "wild rustlers of the plains." The number is now estimated by the best authorities at approximately 900,000 head. The decrease in number is no detriment. It means an improvement in the stock and better profits for their keeping. The great ranges have been broken and contracted, the herds have been distributed in smaller numbers throughout the State, and the larger proportion is now maintained upon the farms or within the province of agriculture, within easy reach of the owners. The movement for some years past has been toward a combination of the agricultural and stock-raising interests, similar in every essential to the methods of the Middle States. The finest hay-making grasses and clovers on the continent grow luxuriantly in Colorado. Of all these clovers, alfalfa is the best, and no grass or clover is known that will produce hay so valuable as feed for cattle. In this product alone, Colorado possesses untold wealth, and this new element in agriculture has entered so largely into the live-stock industry that its cultivation will promote cattle-raising in the State more than all other conditions combined. This changed condition is especially favorable to the careful breeding and raising of stock of all descriptions, and among the public benefits which have followed of late years is the establishment of the dairy in many places and on an extensive scale, this enterprise, in its turn, involving the breeding of improved graded and thoroughbred stock. These and numerous other conditions favorable to the live-stock industry bespeak its increase and improvement for many years in the future.

The range cattle business, however, will not cease for many years to come. There are many millions of acres of unclaimed Government land on the eastern and western sides of the range and in the mountain parks, where there is room for great herds to browse and fatten and multiply. While there has been a dropping off in the herds of the eastern ranges there has been a large increase on the Western Slope. Here the country is new and comprises a vast territory of open land, hills and valleys, endowed by nature with every condition favorable to live-stock. Here the water is abundant, the climate is milder, and the mountains and lesser hills afford protection from the rigors of winter. Southern and South-western Colorado are sections equally favorable to the live-stock industry, and cattle-raising continues to be a profitable business of the people.

Horses.

The breeding of blooded and thorough-bred horses has, within the past few years, become an industry of extensive scope and profit in Colorado. In addition to a number of thoroughly equipped stock-farms in various portions of the State, almost every farmer owns one or more brood mares, and in some instances a herd of them, for the

reproduction of improved stock, while the greater tendency is toward the raising of mixed breeds, in which the heavy draft horse predominates. There are a number of stockmen devoted entirely to the reproduction of fine thorough-bred and trotting horses. These horses have a ready sale, and bring good prices in the local markets.

Colorado possesses many advantages to the horse. The climate is beneficial to the animal, as in like manner it is beneficial to man. Respiration in a rarefied atmosphere, giving development to the chest, gives also superior lung power and a quickened temperament, corresponding with this development. It also stimulates digestion, and gives increased capacity to the stomach. The horse feeds more liberally, assimulates freely, and, therefore, takes on flesh, strength and endurance. With ample pasturage seven months in the year, and with feeding upon the many varieties of nutritious hay and grain through the winter, the horse can be raised more cheaply in Colorado than in any State in the Union, and there is abundance of room for an extensive industry in this line.

Sheep and Wool.

Colorado has a perfect adaptation to the sheep and wool industry. In the few years past the best conducted flocks have paid in wool and mutton about 20 per cent. of the capital invested. It is estimated that there is room, resource and facilities for the raising and keeping of 25,000,000 head of sheep in the State. There are now approximately 2,000,000 head, ranging in value from $2 to $3.50 per head for common, and $6 to $8 for young fancy breeds. In former years the flocks were maintained almost entirely upon the ranges, and, owing to the lack of grazing and the extreme exposure in the winter, the business was hazardous and often attended with disaster. But now all the dangers and disadvantages, except such as are everywhere usual, may be averted and there is no branch of the live-stock industry more certain of remunerative returns than that of sheep and wool growing in Colorodo.

Sheep can be raised in all parts of the State, either in great herds upon the range or in small flocks upon the farm. With the late great increase in farming and more particularly in the cultivation of pastures sown in alfalfa, clover or the common grasses, it is found that the keeping of sheep in small numbers is more profitable. Thus has come about a system of better feeding and more protection, and the animals, therefore, have a better development, are more thrifty and there is a great decrease in mortality from disease and exposure.

Another very important element of increased value is the steady advancement that is made in breeding for improved grades. The prevailing breed is the Spanish Merino, and nearly all the flocks have an admixture of this blood. The Downs breed, the Shropshires and the Cotswolds and Delaines also comprise an important number among our flocks. The introduction of the California and Oregon sheep, is also one of the factors in the improvement of the wool industry of Colorado. The annual wool-clip is now valued at about $1,500,000,

and there is a recent improvement of about 20 per cent. in the quality of wool grown. All this product has in former years been shipped to Eastern markets, and extensively used in the high-grade manufactures. Within the past year, however, a woolen mill has been started in operation in Denver, the first step towards the conversion of all this raw material into such woolen fabrics as are in largest demand in the Rocky Mountain region. Such enterprises will multiply as population increases, and there will be a corresponding increase in the demand for wool of home production. Both for wool and mutton, Colorado presents many advantages over the Eastern States in the sheep-raising industry. One of the prime advantages is the fact that this is a land of free grass. The sheep can graze upon free grass for eight months in the year and be fed with hay from cheap lands through the winter. Here the limit of time for necessary feeding is about three months. In the Eastern and Middle States about five months is the rule. Then again the sheep raised in Colorado are not subject to the ills that reduce profit elsewhere. Distemper here is scarcely known; there is no foot rot, and grub in the head is rare. Scab is not often prevalent, and it yields quickly to simple remedies.

The Hog.

Hog raising as an industry is quite new in Colorado, but is becoming an important branch of farm production. It is found that the country is well suited to swine, and swine well suited to the country. Many of the farmers have recently turned their attention to the cultivation of corn on a large scale, and, as grain will not bear transportation in competition with the corn of other states, it must be converted into pork and beef. Of these meats, pork pays the best and will be found the quickest to make returns. Alfalfa is also an excellent food for fattening hogs. They can subsist and fatten on alfalfa pasturage at a cost of almost nothing to the farmer. Though the hog bears the reputation of being a filthy animal, it has been found that cleanliness is as beneficial to him as to other stock. His surroundings in Colorado compel him to be decent. Here the water is clear and cold, and the ground uniformly dry and sandy, admitting ordinarily of little mud or filth. His food and water are therefore wholesome. The results are that he is a healthy animal, easy to raise, easy to fatten and makes a neat, sweet flavored porker.

Climate and Health.

THE efficacy of Colorado climate in the cure of lung diseases has long been recognized in the scientific world. Physicians in Europe, and other foreign lands, frequently send their patients to Colorado for benefit, and possible cure. In all countries, high altitude and a dry atmosphere are the healthy places for residence. The purity and peculiar qualities of the atmosphere are the main

reasons popularly ascribed. Pure, dry air, brilliant sunshine and agreeable weather all the year round, are the special virtues of Colorado climate. That the climate is especially efficacious in the arrest and cure of pulmonary diseases, thousands of people in the State can testify by their happy experiences. There are a great many people who came to Colorado a few years ago, poor and broken down in health, and who are now strong, active and prosperous in business.

The immediate hygienic influences of the altitude, the exhilarating atmosphere and the pleasant surroundings upon both body and mind of the invalid, are defined by a Denver physician as follows: "There is a sufficient altitude to cause lung and chest development by the increased respiration which becomes necessary; there is the dry, exhilarating mountain air, with the absence of malaria; there is the tonic effect of a bracing climate, without its rigors, an atmosphere filled with ozone; cool nights in summer; a bright, sunny sky almost every day in the year, conducive to cheerfulness, and bringing a new pleasure every morning. It naturally follows from these conditions, that both mind and body are constantly stimulated in their functions."

The average number of cloudy days in Colorado is about forty in the twelve months. This does not mean an absolute disappearance of clouds during all the remainder of the time. The pocket diary of an old citizen of Denver, who was cured of asthma by a residence of a few years, shows a record of only thirty-three days in twelve years in which the sun was not visible in the twenty-four hours. This record is important, inasmuch as it presents a peculiar phase relating to the effects of sunshine, which is not overlooked by the medical profession, namely the curative effect of atmospheric electricity. It is affirmed that the increased electric influence of high altitude atmosphere is one of the most valuable aids in the battle against lung disease. With a clear sky the electricity of the atmosphere is always positive. Continued mediumship of the human body between the positive air and the negative earth, is a constant renewal of vitality. For this reason in part, camping out as much as possible in dry and elevated countries is advised by physicians.

Persons seeking places of best advantage for health have their choice between the cities, towns and suburban retreats on the plains, and the watering places and other resorts in the mountains. For the winter, most persons prefer the comforts, the excitement and social pleasures of the city. In the summer, they derive greater benefits from a jaunt through the mountains and a sojourn at one or more of the numerous watering places where hot and cold mineral springs of great curative merit abound. A day's journey by railway into the mountains will take the traveler to heights of from 10,000 to 12,000 feet. Even to the healthy new-comer, the strain of sudden elevation to these heights is very severe. Some of the best health resorts are located in the foot-hills and the valleys, and the sufferer may go at once to these places. In many instances the plains are the more

preferable for a permanent residence, and many families take up their residence at some pleasant location in a farming community.

The records that have been kept by some of the Denver physicians in the treatment of consumptive patients show some marvelous results of a brief residence in Colorado. The records show a large per cent. of improvement for patients in the first and second stages of consumption. All persons afflicted, however, are advised not to delay their coming until the disease has passed the first stage, while little promise is offered those, except prolonged existence, who come in the third stage of the disease.

The climate of Colorado, is beneficial not to the consumptive alone. It will wear malaria out of the system. People come from all parts of the world with broken constitutions and soon recover. These include men and women with shattered nervous systems, dyspeptics, rheumatics, paralytics, extreme billiousness, liver and kidney diseases and a host of kindred ailments. A large per cent. of these are restored to health and it is rarely that any one is not improved. In all such cases the fine medicinal virtues of Colorado's numerous mineral springs play an important part.

Regarding the weather in Colorado, there are some very greatly erroneous impressions, particularly among people in America. Among those who have never visited the State the impression prevails that the winters are severely cold, stormy and disagreeable. The winters are most delightful, averaging as high in bright, sunny days as the summers. In all the temperate zone there is no country where the weather is more equable, with a greater average of mildness. During the cold periods of winter the mercury seldom reaches zero in the day and occasionally falls to 10 or 15 below at night. In such spells zero would be a fair average for the coldest period of three or four days or a week. The average maximum temperature for January is about 60 degrees, for February 60. The minimum temperature for January is about 15 degrees below zero. For February the minimum is about 10 degrees below. The maximum temperature prevails for two-thirds of the entire season.

Late in the spring and early in the summer the rains begin. It rains frequently for weeks, and the showers are often copious, and usually seasonable for the farms and pastures. Neither cyclones nor sun-strokes ever occur in Colorado.

The summers are seldom excessively warm. July is the only hot month, when the maximum temperature will range in the nineties, and the minimum fifty. The sun shines bright and hot, but it is everywhere pleasant in the shade. No country in the world can excel the bright, genial, sunny weather of a Colorado autumn. For the most part it is warm, but seldom too warm or too cool for comfort, and the mild, pure atmosphere prevails uninteruptedly through the season.

Weather Statistics.

The following tables is a meterological monthly record and yearly averages, for a period of five years in Colorado, as compiled by Sargeant J. J. Gilligan, of the United States Signal Service, stationed at Denver. The tables of maximum, average and minimum temperature form an interesting study, fully confirming the most favorable representations made concerning Colorado climate.

MAXIMUM TEMPERATURE.

	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1886 . .	62.8	71.0	68.0	74.6	89.9	92.7	96.3	94.3	85.7	77.0	63.0	64.8
1887 . .	66.9	70.9	74 7	82.5	89.4	95.9	92.1	94.6	87.6	85.1	73.7	66.6
1888 . .	76.0	70.5	70.0	80.6	80.5	97.7	100.3	92.4	90.0	79.8	70.2	67.5
1889 . .	56.0	61.0	70.0	78.0	83.0	92.0	100.0	98.0	94.0	85.0	60.0	66.0
1890 . .	78.0	77.0	71.0	77.0	88.0	94.0	97.0	98.0	87.0	75.1	74.0	76.0

AVERAGE TEMPERATURE.

	Jan.	Feb.	Mar	Apr	May.	June	July.	Aug.	Sept.	Oct	Nov.	Dec.
1886 . .	21	39	34	44	61	65	74	71	60	52	33	37
1887 . .	31	32	46	49	60	69	69	68	63	48	40	29
1888 . .	27	39	33	53	53	68	71	65	61	48	34	34
1889 . .	27	30	43	51	56	64	72	73	60	52	32	40
1890 . .	28	34	41	48	58	68	75	69	68	50	40	39

MINIMUM TEMPERATURE.

	Jan.	Feb.	Mar	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1886 . .	—18.9	2.9	—10 7	20.5	35.5	46.8	55.5	48.5	29.0	22.6	— 6.0	1.4
1887 . .	—17.6	—2.6	13.2	20.5	30.9	43.7	50.0	46.9	35.0	7.8	—14.2	—13.6
1888 . .	—20.3	15.5	— 1.5	30.0	31.5	41.0	51.4	49.2	38.0	26.0	11.5	7.2
1889 . .	3.5	—7.0	18.0	29.0	32.0	37.0	50.0	46.0	30.0	25.0	3.0	4.0
1890 . .	— 7.5	—8.0	5.0	19.5	31.8	37.0	54.0	48.0	34.0	25.1	17.0	13.8

Dash (—) denotes below zero.

Health and Pleasure Resorts.

Many of the most eminent physicians in the world have given testimouy that Colorado is a land of healing. Many ills of human flesh that have passed beyond the aid of medical skill, have been cured by nature's remedies dispensed through pure atmosphere, the gladsome sunshine and the sparkling waters of Colorado's mineral-laden mountains.

Health-giving mineral springs abound in all parts of the mountainous regions of the State, and also upon the plains some of the most efficacious waters are found. Many thousands who have come from all parts of the world to these healing fountains, will testify to their worth. The thermal springs, which abound in great numbers especially possess all those cleansing virtues which attract a suffering people from their homes, and allure them to the utmost ends of the

earth in search of promised relief. In Colorado it is not an illusion. Sufferers from the most serious organic diseases are positively cured, or greatly improved, and their lives happily prolonged by the persistent use of these waters, both as a bath and a drink.

These thermal springs, located in different portions of the State, are not always identical in their mineral elements, but in many instances contain more or less of the same ingredients, in some instances differing widely in their chemical combination, and therefore being applicable to different diseases. Analyses of some of these waters show a single spring to contain carbonate of soda, sulphate of magnesia, carbonate of iron, sulphate of soda, sulphate of lime, chloride of sodium, chloride of calcium and magnesium, silicate of soda and sulphate of potash. In most of these mineral springs, whether hot or cold, the predominating minerals are carbonate of soda, sulphate of soda, sulphate of magnesia and iron. At some of the splendid resorts, where hot springs exist, the patient has all the benefits of a Turkish bath, with the additional efficacy of these strongly-mineralized waters.

The diseases which yield the more readily to these waters, are rheumatism, consumption, asthma, liver, kidney and skin diseases, malarial poisoning and nervous prostration. It is not claimed that miracles of cure may be wrought by these waters alone.

Not alone do these life renewing, sparkling streams which gush spontaneously from the mountain sides, invite the invalid and the weary. What with its beautiful towns and cities, its gorgeous mountain peaks and lovely valleys, its awful cañons, its streams and its forests, its broad green parks and its charming crystal lakes that mirror the azure heavens in the mountain tops, nature has given to Colorado with lavish hand many wooing attractions for man's delight. In all these charms is found a panacea for the ills of body, the cares of life and the distorted fancies of mind diseased.

For the pleasure seeker and the tourist, no state in the Union, no country in the world, offers such a combination of attractions. Upon each route of the many railway lines that thread their way through the mountains there is an ever-changing panorama of interesting grandeur, while the weird enchantment of far-reaching vistas is broken with delightful visions of the verdant fields and meadows and valleys of the plains.

The watering places of Colorado have become numerous of recent years, with ample and splendid accommodations, while the streams, the lakes and parks, with their great areas of forest, afford the richest sport in hunting, fishing and rustic recreation. Those who come are enchanted with the delightful scenes and a longing memory brings them again year after year.

Educational Advantages.

THE system of public instruction in Colorado for its excellency and substantial establishment is unsurpassed by any State in America. Considering the brief period of the State's industrial existence, no country in the world can show equal advancement in the cause of education. In two essentials especially the schools of Colorado possess peculiar and superior advantages, namely, the enthusiastic devotion of the people and the fostering protection of the State, which holds within its disposal great resources of wealth, especially provided for the maintenance of the schools for all time, supplemented by the moderate constitutional tax levy for special school purposes.

The history of public education in Colorado was that of vicissitude consonant with the struggles of the territory through the early years into the organized life of Statehood. Its period of true and substantial development, therefore has been within the past fifteen years, and along with a thorough system of public schools established on the permanent foundation of an ample fund that will grow with the further development of the State, rather than diminish by use, have grown up colleges, universities and numerous other institutions of learning, whose foundations are laid to anticipate the increase of population and the great upbuilding of the West for generations to come.

In the beginning of school history, thirty years ago, the respective districts, each of them the size of a State, contained less than a score of school population. At the time of Territorial organization, with a population of 25,000, there were less than 4,500 women, and no native children of school age. With the year 1870, the beginning of the State's permanent growth (though still as a Territory), also began the modern period, or permanent development of education. In 1875, Colorado contained 20,000 school children, with a school attendance not exceeding 10,000.

By the enabling act, the State received from the general Government two sections of land in every township, the proceeds from the sale of which is to constitute a permanent fund, the interest only to be expended in support of common schools. Seventy-two other sections were set apart for the support of a State University. Thus the foundation of a splendid school system was early laid. Under this grant it is estimated that the State became owner of 3,500,000 acres of land, the larger part of it being the best agricultural and mineral lands in Colorado, with favorable location, to be used exclusively for the benefit of schools. Of this land, about 70,000 acres have been sold, and nearly 1,000,000 acres are under lease, yielding an annual income of over $80,000. The recent and numerous new discoveries

of gold and silver has greatly increased the demand for leases of mineral lands. From these sources, a permanent fund has been created, that now amounts to about $1,070,000. For all school purposes, Colorado has been most liberal in the expenditure of money. School-houses are numerous throughout the State, and some of the largest, most splendid and costly school structures on the American continent are to be found within her borders, especially in the city of Denver. Since the State was admitted into the Union, in 1876, there has been expended on the common schools alone, an amount approximating $16,000,000. This does not include the State University, Agricultural College, School of Mines and the State Normal School, all of which are State institutions.

The school population of the State is now (in 1893), 106,754. Total value of school property, $5,790,770.

As a result of thirty years of organized effort, the greater proportion of development being for the past ten years, the system of public instruction in Colorado is as near perfection as it can be found in any State of the Union, the work of a century giving them no advantage in the points of excellence and advancement. Comparing the year 1871 with the year 1877, when the first report under the State administration was made, there was an increase in important particulars, such as school population, enrollment, number of districts, number of buildings, value of school property, etc., of 100 to 500 per cent. Comparing 1871 with 1892, the last year's record, for the same items there is an increase of 800 to 2,100 per cent. The growth has been healthful and symmetrical. From elementary schools to university development has been gradual and therefore stable. With the roots of the system firmly planted in deep soil, the wonderful expansion that is now going on at the top in the higher institutions of learning is natural and timely, and comes with it the assurance of a steady development as with that of all other interests of the State. The graduates of the public schools of the State are not only finishing their courses in the home colleges and universities, but have been admitted to the foremost institutions of the land, and after completing full courses of study have returned, crowned with honor and distinction. The quality of the work done in the schools of Colorado may be measured by the records of the graduates in positions of responsibility, distinction and trust, which they are filling within and without the State.

The universities and leading colleges of the State are as follows: The State University of Colorado, located at Boulder; the State Agricultural College, at Fort Collins; the State School of Mines, at Golden; the State Normal School at Greeley, all under the control of the State Government. The University of Denver, under control of the Methodist Episcopal Church; the Colorado College at Colorado Springs; the Westminster University of Colorado, located at Denver, and under control of the Presbyterian Church; the Presbyterian College of the South-west, located at Del Norte, in the San Luis valley;

the Longmont College, a Presbyterian establishment at Longmont; the Tillitson Academy, under control of the Congregational Church, located at Denver; St. John's College and Wolfe Hall, Denver, under control of the Episcopalians, Jarvis Hall, another branch, being under special charge of St. John's Cathedral; the College of the Sacred Heart, conducted by the fathers of the Society of Jesus. There are numerous other institutions of learning and private schools of varied character and in great numbers. In all the institutions named, the scope of study is comprehensive, embracing the specialties indicated, the professions and the higher branches of learning for both men and woman.

Cost of Living.

The ample facilities of transportation afforded by the numerous railways which connect all points in the State with the markets of the nation, and the great increase of recent years in the home supply from agriculture, manufactures and other sources, have rendered the matter of living in Colorado a problem of no greater difficulty than in the older States of the country. The prices current in the retail markets will serve as the best indicator to heads of families:

Flour, Colorado standard, first grade, $1.50 per cwt.; second grade, $1.35; dressed beef, loins, 14 and 15 cents per pound; ribs, 9 and 10c; hams, sugar cured, 14 and 15¾c; breakfast bacon, choice, 15c; mutton, 15c; butter, creamery, 33 and 35c; sweet dairy, 20 and 22c; eggs, 20 and 25c per dozen. All vegetables as cheap as Eastern or Middle States. Dry goods and clothing, prices nearly correspond with Eastern markets.

The rent of houses and rooms in the cities and larger towns is proportionately the item of largest expense. Cottages of five and six rooms (in Denver) rent for $15, $18, $20, $25 and $35 per month, according to the location and style of building. Two story houses, from $35 to $75 per month; larger dwellings at prices proportionately larger. Furnished rooms rent at prices ranging from $6 to $18 per month, the average being about $10 per month for single occupants. Hotel rates, according to the class of house, range from $28 to $75 per month ($1.50 to $4 per day for transients). Table board at hotels $4 50 to $12 per week. Room and board at boarding houses range from $7 to $12 per week. Regular meals are given at restaurants at 25 to 75 cents, and the cheaper restaurant is an institution that obtains with popular patronage throughout the State, being especially numerous in all large towns and cities. In the mountain districts and at points elsewhere remote from the centers of commerce, the prices for all things range slightly higher than in the cities on the plains.

Although the wage-earning people of Colorado are as closely circumscribed by the cost of living in comparison with their earnings as in other industrial States, the thrift of this class is remarkable. A large per cent. of this population, including the laborers, clerks and working women, own the houses they live in. The many easy opportunities of securing a home in Colorado are among the flattering inducements to the poor man, and this is of itself a good foundation for his fortune.

Iron Resources of Colorado.

LARGE bodies of iron are numerous in Colorado. It has been often repeated by scientific explorers, that Colorado compares favorably, as to iron resources, with many States better known in this respect, and recent developments have shown that the iron industry of the State offers a field of great promise for manufacturers. The sections of the State where iron deposits are known to exist in the largest bodies, and of best quality, are in the counties of Chaffee, Gunnison, Las Animas, Saguache, Boulder, Pitkin, Routt and Conejos.

These great deposits remain practically undeveloped, mainly for the want of manufacturing enterprise in the West. The extensive iron works of the Colorado Coal and Iron Co., at Pueblo, is the only establishment of the kind, manufacturing exclusively from the native ores. These works are built upon a large scale, and produce pig-iron, steel rails, iron castings, cast iron pipe, merchant bar, nails, spikes, and gas, sewer and water pipes. The output is consumed mainly in Colorado, but the markets for such wares are open and inviting in all the adjacent States and Territories of the Rocky Mountain region. The ores thus far mined and used by the Pueblo works are true "Bessemer," and their freedom from phosphorus is their most striking characteristic. The ore taken from their principal mine will not average over 0.008 per cent. of phosphorus, though not so free from sulphur, showing from one-tenth, to as high as two per cent. in shipping lots, perhaps yielding something under one per cent. in a general average. The average percentage of metallic iron (actual shipments), is fifty-seven; lowest, fifty; highest, sixty-three.

The Breece iron ore at Leadville, which is mined with the precious metals, and used by the Colorado Coal and Iron Co., has been described as a magnetite, though it now appears that it contains more hematite. This ore has been developed to a width of fifty feet, and its limits are unknown. The ore carries, besides iron, manganese, nickel, cobalt, zinc, copper, gold, silver, arsenic, antimony, calcium, magnesium, aluminium, titanium, carbonic acid, phosphoric acid, chlorine and water. Such an analysis, presented merely as qualitative, might well terrify an iron master. The sum total of the impurities, however, with the exception of silica, falls under one per cent, and even of this over half is magnesia. This elaborate analysis was made by Mr. Hillebrand, of the U. S. Geological Survey. A commercial analysis made at the Colorado School of Mines on average shipping lots, showed iron, 60.5; silica, 5.80; and phosphorus, 0.03 per cent. This ore has been used both as flux in lead smelting, and for the manufacture of pig-iron.

The largest ore bodies in the State are found in Gunnison county. These deposits are almost wholly undeveloped, and their extent unmeasured. Here it is claimed that the supply is inexhaustible. The largest veins so far known are magnetic. The following is an official analysis made by Prof. Regis Chauvenet of the State School of Mines of the ores taken from the "Iron King," the largest known iron body in Gunnison county, the samples being taken from a vein seventy feet in width, and of quantity so great that it is incalculable.

Sample from whole mass	Metallic iron,	49.71 %
Sample, omitting only quartz-streak near foot-wall	"	52.16
General sample from 40 feet nearest one wall . . .	"	55.62
Sample from best exposures in whole width . . .	"	58.19
Sample from best exposure nearest lime wall . . .	"	67.27

An average of 60 per cent. can easily be mined, by rejecting only such streaks as naturally separate in the sorting. A general analysis average of total exposure, gave as follows:

Water	0.65
Silica	3.85
Iron, metallic	58.75
Sulphur	0.123
Phosphorus	0.044
Lime	trace
Magnesia	trace

This is first-class ore, and other analyses have shown its average sulphur to be less than shown in these examinations.

In the same County are many smaller mines, with rich manganese ore. After roasting, this ore yields 35 to 40 per cent. iron, and from 15 to 25 of manganese. Near to these great iron fields are coal beds, notably those in the vicinity of Crested Butte, and at the head-waters of Ohio Creek, already accessible by railroads, which connect at Gunnison with the main lines reaching every part of the State. Limestone is abundant, and has been developed and shipped at several points.

The ore chiefly smelted, thus far, at Pueblo, is from the Calumet mine, of Chaffee County, a great magnetite deposit, whose average analysis is given herewith:

Silica	7.04
Alumina	1.90
Per-oxide of iron	59.76
Protoxide of iron	26.88
Bi-sulphide of iron	1.14
Lime	1.59
Magnesia	1.70
Phosphoric acid	0.016
Titanic acid	trace
Iron, metallic	63.28
Sulphur	0.61
Phosphorus	0.007

The deposits here briefly described form, of course, only a minority of those known. The great deposit (Hematite), of Gunnison County, near Powderhorn P. O. (Cebolla District), will not be long in attracting the attention of iron men, and in the same hills are abundant deposits of manganese ore of all grades, from pure black oxide to ores to be classed as iron, with manganese in various proportions. The wonderful, but undeveloped mass of magnetite above Ashcroft,

in Pitkin County, is perhaps the most massive of any of the veins yet discovered, though its altitude has prevented much exploration.

Anticipating an era of great manufacturing in Colorado, a company has been formed for the establishment of iron and steel works in Denver, with a capital of millions. The operations of this company will be based upon calculations as follows: That the ore and the fuel lie in so near proximity that all the material for the production of a ton of Bessemer pig-iron, delivered at a suitably located furnace, would, on the basis of a most liberal estimate, cost $9 as a maximum, with the probability that it would be nearer $7 than $9. and that a fair rate of freight on pig-iron, on large contracts, from such furnace to Denver, would be $2 per ton. Taking the maximum at $9 and adding $2 for labor and $1 for general repairs and expense, and then adding $2 for freight, a total cost of $14 for Bessemer pig iron in Denver is given, so that $15 would represent a selling price with fair profit. These are maximum figures, and recent closer estimates place the cost of production as low as $12 per ton.

A Great Railway Center.

THE numerous railway systems in Colorado form a net-work of lines throughout the State. Nine main lines with their many branches and extensions, having a total trackage of 4,675 miles in the State, all center in Denver, and that city has thereby become the greatest railway point west of St. Louis. Seven of these lines, including two lines of the Union Pacific, represent five great railway systems which have extended their main lines from the East into Colorado. To the south-east is the great Denver, Texas and Fort Worth Railway, connecting Denver with Galveston and New Orleans, while within the State, are the great local systems of the Denver and Rio Grande and the Colorado Midland railway, both giving an outlet to the Pacific, the Rio Grande with its numerous branches reaching all the great industrial centers of Colorado. In addition to the lines constructed in the State, four great railway systems run their cars to Denver over the tracks of other railways from Missouri river points, and over one hundred passenger trains arrive at and depart daily from the Union depot at Denver. Eastward the Union Pacific runs two lines, viz: the Julesburg Short Line, to Omaha, and the Kansas Pacific, to Kansas City. The other lines of the Union Pacific Railway in Colorado, are the Denver Pacific, *via* Brighton, Evans and Greeley, to Cheyenne; the Colorado Central, narrow guage, extending into the gold and silver mining regions of Gilpin and Clear Creek counties, and the broad gauge branch of the Colorado Central, reaching the prosperous agricultural sections of Golden, Boulder, Longmont, Loveland and Fort Collins; the Denver, Marshall and Boulder branch; the Denver and

Leadville extension to Leadville, reaching Breckenridge and other camps in Summit county; the Denver and South Park branch, through South Platte Cañon, over Kenosha mountains, across the South Park and over Alpine pass, through the great tunnel and down to Pitkin, Gunnison and the coal fields at Baldwin; and the Denver and Morrison branch to Morrison.

The Burlington and Missouri railway passes from Denver through the agricultural and stock raising lands of north-eastern Colorado, and thence into Nebraska and Kansas, where it connects with the Eastern trunk lines, dividing traffic with the Union Pacific and other East and West trunk terminating lines in Colorado. It has one branch in the State, the Denver, Utah and Pacific from Denver to Lyons, a distance of forty-five miles, where are located the extensive stone quarries producing fine flagging and paving stone. The 400 miles of this system includes the newly constructed road to Cheyenne, through the rain-belt counties of Sedgwick, Phillips and Weld. The Burlington and Missouri was the pioneer line in the development of eastern Colorado as an agricultural country. In general business it has always received recognition as a benefactor in the development of the State. From the first its thorough equipment and its uniform spirit of accommodation to the public established its popularity with the people of Colorado and the traveling public.

The Denver and Rio Grande railway is in every particular a State enterprise, and to it Colorado is indebted for a great part of its prosperity. It has been the aim of this railway to reach all the mining districts and other centers of industry within the field of its operations. From its main line north and south it has deflected to the west and south-west with its numerous branches until it has extended itself like a fan over these portions of the State. The northern extremity of the Rio Grande is Denver, and the southern, Santa Fé, New Mexico. Westward it extends *via* Salt Lake to Ogden, where it connects with the great railway lines of the Pacific Slope. By its various extensions its main stem is connected with Leadville, Glenwood Springs and Aspen, Gunnison, Grand Junction, Ouray, Alamosa, Durango and Silverton, West Cliff, Columbus, Saguache, Irwin, Crested Butte, Wagon Wheel Gap, Moffat in the San Luis Valley, and the rich silver mining camp of Creede.

The Rio Grande Southern is an important line of communication between Ridgeway, in Ouray County, and Durango, in La Plata County. It opens up the country in the extreme south-eastern part of the State, and fills the gap in the line of traffic communication on the line of the Denver & Rio Grande between Ouray and Silverton. In its passage through the south-western part of the State, it opens a country of immense mining wealth, much of which has hitherto been undeveloped in the San Juan country.

The Colorado Midland is a Colorado enterprise, and a splendid broad-guage route from Denver, *via* Colorado Springs to Leadville, over the Continental Range to Glenwood Springs, and thence down

the Grand River valley to Grand Junction, whence it is heading for the remote west over the Rio Grande Western to Salt Lake and Ogden. Recently it has come under the control, and is a part of the Atchison, Topeka and Santa Fé system, and forms an important link in the trans-continental connections of that great railway. The original design in the construction of the Colorado Midland, was an ultimate outlet to the Pacific coast. To consummate this result, more than $10,000,000 have been expended in construction and equipment, and work is now in progress on the Loch-Ivanhoe tunnel, through the Saguache range, which will cost another $1,000,000, and the tunnel will be 9,350 feet, the third in length in the United States. The Colorado Midland gives the advantages of development to many rich sections in the State, and is one of the favorite routes for tourist travel amid the grandeurs of mountain scenery.

The Rock Island railway enters the Eastern side of the State, passes through the fertile counties of Kit Carson, Lincoln, Elbert and El Paso, and terminates at Colorado Springs. Its trains operate to Denver over the Denver and Rio Grande railway from that point, and also thence to Pueblo. This road opens large areas to agricultural settlement and contributes largely to the prosperity of Colorado.

The Atchison, Topeka and Santa Fé railway enters Colorado in the south-eastern part of the State, passing through the rich agricultural counties of Prowers, Bent, Otero and Pueblo, contributing greatly to the development of the fertile valley of the Arkansas, and operates its own lines to Denver from Pueblo. It diverges at La Junta and connects with the Atlantic and Pacific at Albuquerque, New Mexico. The Atlantic and Pacific, together with the California Southern, are now owned by this corporation. The extension of this system gives Colorado direct communication with California points and also with Fort Worth, Texas. The road is now an important link of communication between Colorado and the markets of the East and West.

The Missouri Pacific from St. Louis and Kansas City terminates at Pueblo, its trains running to Denver *via* the Denver and Rio Grande railway. The system of which this road is part operates 6,200 miles of trackage and networks a portion of Missouri and extends into Tennessee and other Southern points. By this road Colorado taps the Southern trade at Memphis and St. Louis. Since its construction through Colorado, the portion of the State through which it passes has become populated and numerous large irrigating ditches parallel the line part of the way. The road passes through Kiowa, Otero and Pueblo counties, in the Arkansas valley, opening up large sections of country to agricultural settlement.

The railroad from Manitou to the summit of Pike's Peak, constructed in 1890, is an unique achievement that surpasses the cog-way up Mount Washington and the incline railway up the Rhigi in Switzerland. It is eight and three-fourth miles in length, cost $300,000, was built for tourist travel, and is the sensational novelty of this century in railroad construction.

In addition to the established lines, the Chicago and Northwestern runs daily vestibuled trains between Chicago and Denver, reaching this city over the track of the Union Pacific. The Chicago and Alton runs its own sleeping cars between Chicago, Kansas City and Denver, using also the track of the Union Pacific. The Chicago, Milwaukee and St. Paul runs its own cars between Chicago and Denver, employing as an entrance to this city the track of the Burlington. The Wabash railroad runs through sleeping cars into Denver, reaching this city over the Rock Island and Union Pacific.

New Roads and Extensions.

Vast wealth of material resource lying in the western portion of Pitkin and Gunnison counties, becomes tributary to Western Slope markets, by the construction of the Crystal River railway from Carbondale, in Garfield county, up the valley of Crystal river, to the town of Crystal in Gunnison county. This road taps the great coal field at Carbondale, in Garfield, the rich silver mines and a great basin of coking coal in Pitkin county, and the silver mines and great marble quarries of Gunnison county. The coal field in Pitkin, forms a great basin possessing a quantity of coal immeasurable and inestimable. Near by in Gunnison county, are vast bodies of the finest marbles of all varieties and colors. The development of these resources by this railway, will add millions of wealth to the State.

The Colorado Eastern Railway is but a few miles in length, reaching coal mines near Denver and will doubtless be sooner or later used for entrance into the city by some of the projected lines from the north-east that will certainly be constructed in the near future.

The Denver, Lakewood and Golden road has recently been built, connecting Denver with Golden. The track is built of steel, weighing seventy-five pounds to the yard, and while its ultimate destination is not known to the public, the expensive character of its construction leads to the conclusion that its promoters have in mind a line of great importance to the city and State.

The Denver, Apex and Western line is intended to shorten the line of transportation between Denver and the Pacific Coast, and active work will probably be going forward before the end of 1893, the great Atlantic & Pacific tunnel being contemplated as its probable outlet through the range.

The Denver and El Paso Independent Railroad is a proposed line that gives promise of early construction. It will give Denver direct communication, not only with the rich mining districts of New Mexico, but will reach the fairest and best agricultural section of that great Territory, and at the same time shorten the distance to all Gulf ports.

Quickly following the discovery of the mines at Creede, the Denver and Rio Grande built an extension into that rich and famous gold and silver mining camp, and is building an extension into the rich and newly discovered mining district of Cripple Creek.

Still other railways are under contemplation, and there is hardly an accessible portion of the State that has not been surveyed to determine the feasibility of construction.

Trips for the Tourist.

THE Splendid railway facilities of Colorado, afford the tourist a delightful journey through the Rocky Mountains. With rapid transit along the beautiful agricultural valleys or plunging wildly through the cañons and over the dizzy summits, the tourist of to-day may sit at the window of his luxurious palace car, entranced with the grand panorama of mountain peaks rolling by as if upon a scroll, with here and there a charming vista of glens, parks and valleys, with their sparkling waters, their verdure and their flowers, an ever-changeful vision of all that is grotesque and beautiful in this rugged configuration in the face of nature. The traveler may make a continuous journey of the State, or, if preferred, he may make daily trips from any given point. By the Union Pacific a circuit of the splendid agricultural region of Northern Colorado is the trip of a day. By the lines of the same system another day will take the visitor through the grandeurs of Clear Creek Cañon to Georgetown, and over the famous Loop to the foot of Gray's Peak, with its crest of eternal snow, and by the Denver and South Park, through the wonderful Platte Cañon, and over the snowy range to the famous city of Leadville. From Denver southward, with a choice of numerous lines of railway, a splendid panorama of the mountain range is revealed in every mile till Pueblo is reached and thence southward to the New Mexico line, is a continuous vision of scenic grandeurs. In the passage between Denver and Pueblo, the world-famous Pike's Peak comes into view. At its base is the splendid city of Colorado Springs, and still nearer its feet nestles the delightful Manitou Springs, the "Saratoga of the West," surrounded by its many attractions, including the "Garden of the Gods." Here, too, is Cheyenne Mountain, with its wonderful cascades and cañons.

Starting from Denver, the Denver and Rio Grande ramifies the Rocky Mountains throughout the State. Westward the main line plunges through the Royal Gorge of the Cañon of the Arkansas, whose rugged walls of solid rock rise to a perpendicular height of 2,600 feet above the track. Thence onward to Leadville, the course ascends the grand ampitheater of the nation—the Snowy Range with its masses of mountain spires whose whitened summits rise to the clouds. Thence onward still, it passes over the snowy crest in the midst of these towering giants of the Rockies, and downward under their gloomy shadow, through abysmal chasms, into the beautiful valleys of the Eagle, the Grand and the Blue. The great Salt Lake route is an everchanging picture of stupendous mountains and beautiful valleys, with their rippling streams, their verdant fields, and the towns and villages of prosperous people. Equal in interest are the

scenes along the route of the Silverton branch, where the Mountain Twins—the Spanish Peaks—and Veta Pass become objects of admiration and wonder. Sierra Blanca, 14,464 feet, and the great San Luis Park, 100 by 60 miles, unite in forming the most enchanting view of mountain and plain. Thence onward and westward, Phantom Curve, Toltec Gorge, Garfield Memorial, The Needles, Elk Park, Garfield Peak, Sultan Mountain and the many awe-inspiring and rugged heights and chasms of Animas Cañon gives a journey of ever changing but increasing interest. On the Del Norte branch is Wagon Wheel Gap; and the Ouray branch is famous for its many points of interest. The extension of this line scales to the summit of the mother range, giving a most thrilling view of gorgeous scenery, connecting all the lines and completing the most wonderful scenic tour of the world.

The Colorado Midland, in its westward course, reveals the greatest wonders of the Continental range, passing through Cheyenne Cañon, with its beautiful cascades, bringing to view the charming rainbow falls, winding about the mountain summits for miles, in the shadow of the great Pike's Peak, passing through the great mining city of Leadville, scaling the summit of the Continental range beyond; gliding down through the great cañons and valleys to Glenwood Springs, and thence on westward through the delightful valley of the Grand to its outlet from the State.

Along all these lines are places of fascinating interest, and there are numerous health and pleasure resorts, which become the places of rest and recuperation for the tourist and the invalid traveler.

The Dairy.

OF late years, the dairy in Colorado has evolved from a very small business enterprise, to an establishment of large commercial importance, giving promise of a great future. Its present improved condition is the result, mainly, of breeding thorough-bred and graded cattle, and is in part due to the improved methods of feeding and taking care of stock on the farm. Thus, the thorough-bred and graded cattle interests, and the dairy business, have become inseparable, and, as the tendency in all parts of the State is toward the reproduction of improved stock, the dairy must necessarily grow till it becomes the main source of supply to the people of the State in all dairy products. It is estimated that of all the butter consumed in the State, not more than one-sixth of the amount is made at home. With her wide range of facility and resource, Colorado could not only make all her own butter and cheese, but have a ready market in adjoining States for a large surplus. Among the many advantages are such as, immense areas, good pasturage, pure water, a genial climate, and a soil productive of all the grains, grasses and

valley lands along the water courses, where the grasses are richest and most abundant. Nevertheless, the established dairies of the State are conducted the more with a view to the methods of feeding and caring for the stock, than to the location, with reference to immediate surroundings. Therefore, it is practicable to establish the dairy in any agricultural portion of the State where good water can be obtained. Splendid pasture lands can be obtained in all the irrigated portions of the plains, in the mountain parks and valleys, and in all the broad valleys of Southern Colorado and the Western Slope. The favorite breeds of dairy cows now in use, and multiplying in Colorado, are the Jerseys, Holstein-Freisens, Swiss, Polled Angus, the Galloway and Durham. With proper care, their averages of production run very high. The large, well-regulated dairies are conducted upon the most advanced, scientific principles, and the products of the creameries are of superior quality, commanding uniformly high prices. There are a number of cheese factories in the State, and their product is equal in quality to the best family cheese from Eastern markets. The average price, for what is termed ranch butter, is 30 cents per pound, retail. The best creamery butter retails at 40 cents, and some fancy brands at 50 cents per pound, in the nearest home markets.

Alfalfa.

THE greatest of forage plants for Colorado is alfalfa, and the State's great strides in farming and stock-raising are due to this plant, in large measure. It is not a native plant, nor is it something new. Virgil, and others of the ancient writers, speak of it. In fact, it was known to the Greeks and the Romans over 2,000 years ago, and it was used for forage long before the Christian era. Authorities state that it was brought from Media by the Romans 470 B. C. It was introduced in Mexico at the time of the Conquest; thence into South America, and from Chili into California in 1854, where it has been grown successfully. Early in the 'sixties it was brought to Colorado, and was raised for the first time in the State in the Platte valley, near Denver.

It flourishes at all altitudes below 7,000 feet, and in all soils that will produce other crops. Sandy and clay loams are best adapted to its habits. Soils underlaid with shale, or hard-pan, are not conducive to its successful growth, inasmuch as the roots of the plants must penetrate the sub-soil until they find moisture. It is the most tenacious of all forage plants, enduring more harsh treatment, more dry weather, heat and cold, after making a stand, than any of the others. It defies the hottest suns, the dry soils and the great variations of temperature—in fact it keeps fresh and green, while all other plants dry up around it. Its growth is exceedingly rapid. In some soils, and

under certain conditions, it makes a growth of 30 to 45 inches a month, and in some localities, a cutting every month in the summer season. The first cutting is ready about the month of June, just before blooming, and is considered the best for working teams, inasmuch as it contains more fattening elements. The second crop is cut in July, and the third in September. Horses grow fat on it alone; cattle make fat, flesh and milk; sheep thrive, and are perfectly healthy when fed upon it, and hogs, when pastured upon it, need no other food to fatten them. For the information of those unfamiliar with alfalfa, it is important to state that it is a perennial plant, one planting being sufficient for the life-time of the farmer, and that of his children who live after him. The amount of seed per acre necessary to secure a good stand of hay is 20 to 25 pounds; for seed, 12 to 16 pounds are sufficient. For hay, the seed on sandy soil should be sown alone; on cloddy, clayey soils, wheat, oats or barley, in small quantities, may be sown with it for shade.

As to the digestibility and worth of alfalfa as food for stock, the State Agricultural College of Colorado has made thorough experiments, and in the official bulletin elucidating these facts, it is stated that the average animal will gain seven pounds weight for every 100 pounds of hay consumed, or a gain of 140 pounds weight for each ton of alfalfa. Thus its cultivation has become profitable as winter feed to the flocks and herds which, in late years, have become prevalent upon the farms, instead of being left to struggle through the rigors of winter upon the barren plains. In this connection it will be of interest to state that alfalfa has been sown on about one-fifth of all the available agricultural lands in the State, and now leads all the agricultural products in tonnage and value.

Petroleum.

COLODADO produces all the oil required for home consumption, besides a large surplus for outside markets. Petroleum has been found in limited quantities from time to time in various parts of the State, but the only developed field is at Florence, in Fremont county, in the valley of the Upper Arkansas, or mountain region. Oil was first discovered here abont eleven years ago. Its product has steadily increased from the first, and for the past eight years has yielded a supply sufficient for the State, in later years the surplus reaching the markets of the adjoiuing States. In the Florence district the producing area is about three miles wide and ten miles long. The formation is shale, with no other rock interposed. This shale is known to be 3,500 feet thick, but how much thicker has not been determined. The deepest producer is 2,500 feet, but the oil strata has been tapped as shallow as 1,200 feet. One in every four wells is a producer. The heaviest yield from any one well is 500 barrels a

day, and from that they run down to five barrels. This annual production has reached approximately 700,000 barrels crude oil. There are two oil refineries at Florence and one at Overton, near Pueblo, the oil being piped from Florence, a distance of thirty miles, the line having a capacity of 5,000 barrels per day. There have been several excitements over the discovery of oil near Denver the past year. A well was sunk at a point twelve miles distant to a depth of 2,800 feet, which encountered natural gas as well as petroleum, and the owners felt satisfied that they were near a large reservoir, when the pipe broke and the well was flooded with water. Drilling in a new hole is at present in operation. Boring for oil is in progress in two other places in Arapahoe county, and all indications are favorable.

Poultry.

EVERY advantage is offered in Colorado for successful poultry raising. Wherever it becomes a feature of the farm it is a profitable part of the industry and the results show the practicability of its universal adoption. Domestic fowls thrive best upon dry, gravelly land, where seeds and insect life are plentiful. These are the essential conditions in Colorado. The statistics of commerce show conclusively that the chicken farm or "chicken ranch," as it is called in the west, would be a useful institution and one of great profit. The receipts of poultry and eggs in the Denver markets during the year 1892, mostly for general consumption, is a commercial item of great suggestions:

Eggs	(by freight) cars		55
Poultry	" "		5
Eggs	(by express) cases		36,132
Poultry	" "	dressed, pounds	2,337,757
Poultry	" "	live, coops	6,113

The receipts aggregate a value of not less than $2,000,000. Three fourths of these products were shipped in from other States, and similar shipments proportionately to population, were received at other principal markets in the State. Thus may be seen the great amount of revenue that may be derived from the poultry business in Colorado.

Hunting and Fishing.

THE wild game of the Rocky Mountains is steadily disappearing before the rapid advance of settlement in the West. Still there is a great reserve left to the sportsman in Colorado. The great forests lying west of the Continental range, with their splendid parks and timbered valleys are, as ever the undisputed domain of elk, deer, bear and the smaller game; crystal streams in all parts of the State team with mountain trout, and the many lakes high up amid the peaks, while abounding in fish, are the haunts of the wild feathery tribe. For the larger game, the principal grounds of rendezvous for the angler and the huntsman are the North Park, Middle Park, and along the forests and streams of the Western Slope. The system of Government fish hatcheries which have been in operation during the past few years, has proved of great benefit. In many of the splendid mountain lakes, as well as all the principal streams, the stock is annually improved and greatly replenished from these establishments and the fish from these pure, cold waters are not only numerous, but of excellent quality. As of old numerous hunting parties continue their annual visits from Eastern States to Colorado, and now, that the Indians have gone and the white man is free to roam the forests untrameled with fear, these visits are attended with more pleasure and greater success than ever before. One of the greatest advantages of the present is the improvement in the modes of travel. Railroads have taken the place of the trail and many of the favorite hunting grounds can be reached in a day's journey from Denver.

The City of Denver.

IN the thirty-third year of its age, as the pioneer settlement of Colorado, the City of Denver, now the great metropolis of the West, contains a population of 150,000. Of this number it has within the past ten years gained 100,000 and now represents one-third the population of a wealthy State, comprising nearly 104,000 square miles. Within this immense area there are the resources and the room for the maintenance of 10,000,000 people. Occupying a central position in Colorado, which is itself the pivotal ground in the community of Western States, Denver becomes the great magnet and radial point for the commerce of the Western country. Situated on the banks of Platte river upon the beautiful and gently sloping plateau reaching from the foot-hills twelve miles distant, it has an open view of the plains and skies to the east, while to the west it sits in the shadow of the majestic snow-clad peaks of the Rocky Mountain range, with the most gorgeous and entrancing picture of nature's painting ever in view.

Only the pen of inspiration can relate all that Denver is or describe its many points of attraction. For the future no one can set its bounds, and to tell what it is destined to be is only within the power of prophetic wisdom. It is the throbbing heart of the Rocky Mountain country. The largest and most progressive inland city remote from navigation in America; sitting, unique and beautiful, in the clovers best adapted to the production of milk and cream. The particular portions of the State best suited to dairy animals, are the midst of this vast area of more diversified resources than any country of the world, having now attained that position of precedence and prestige where she draws everything to her as the metropolis of a rich region, extending for 600 miles in all directions, with no equal, no rival, no possibility of rivalry within this radius of country. In this position she becomes the commercial and manufacturing center and the great distributing point for the products of industry and commerce, to the community of States that form the Western "half" of the Nation. This community is fast multiplying its thousands into millions, and these millions, as if by the natural law of centripetal force, voluntarily pay tribute to Denver.

Thus no city in the world has such brilliant and certain prospects.

As it will ever be the business center, so also it will be the seat of art and learning for this great and peculiarly cosmopolitan civilization in the West.

It is clearly apparent to experienced men of business from all parts of the world, to capitalists, to men familiar with real estate affairs, and to the men who wield the power in the management of the great railway systems now making a conquest of the West, that

the destiny of Denver is extraordinary and inconceivably great. They can see in the many massive structures of architectural excellence and beauty the durable building of a magnificent city. They see in the broad measures and widespread development of rapid suburban growth the foundations now being laid for the habitations of a million people. From the smoking chimneys of manufacture that grow and thicken about the place, from the rush and hurry to and fro upon the great iron arteries of commerce; from the sounds and scenes of industry in the workshop and field; in the outporing of unstinted treasure from the mines; in the production of coal and iron and oil; in the great acquisition of agricultural land and the overflowing products the rich soils of Colorado; in all these, together with the development of materials without limit for the industrial arts, they see that that the great city of the future is now building; that its growth will be permanent and its prosperity perpetual.

The most reliable evidences of the substantial growth of a city are: Thrift and progress in agriculture, the multiplication of manufactories, the durable character of its building and the constant increase in the sales and values of real estste. Denver is amply blessed with these signs of prosperity. From the center of the city to every outside point there is a steady, rapid growth, both of the city itself, and of its business interests, with an equally steady appreciation of values. Manufactures in almost every line are constantly being added to the long list of establishments, the commerce of the city embraces the wares and commodities of the world, and people of all avocations here find a field of profitable endeavor.

The early history of Denver is of little moment here, and would be of no material interest to the reader, except as it would serve to illustrate the process of this grand unfolding from the crudities of pioneer days to the present magnificent order of civilization. The chief point of interest is the fact that the beginning of this history is of so recent date, coupled also with the fact that the beginning of Denver was the beginning of Colorado, now so great in wealth and important in its people. Twenty-two years ago Denver contained a population of only 4,759. It was then, from the date of its settlement, twelve years old. In that year the first railway came, and then the true development of Colorado began.

The establishment of the site of Denver was an incident in the adventures of the first party of men who came to Colorado in search of gold in the year 1858. This was the forerunner of the great Pike's Peak gold hegira in 1859. It is the primary point in the history of these times that the first gold was discovered in the bed of Cherry creek in 1858, by Green Russell and his party from Georgia, and that following the course of that stream to its confluence with the Platte river, they made an encampment there. This encampment became the nucleus of permanent settlement, the first in Colorado. During the year, other parties came, and within that year and the next, three different town sites were located, and the crudest kind of "stick and

mud" log cabins formed the first habitations. These town sites having different locations all within the present limits of Denver, bore the names respectfully of Montana City, St. Charles and Auraria. For months there was a bitter rivalry between these log cabin and "wagon cover" camps, as to which should maintain priority as the town of this great western wilderness, then the possession of ths savage Indian. On the 29th of October, 1858, a wagon train laden with groceries and provisions, arrived from Iowa, and the owners built the fourth cabin in Auraria, which was the west side settlement. These parties, with the contents of their wagons opened a store, thus starting the first commercial enterprise in Colorado.

The permanent organization of the town of Denver occurred November 22, 1858. A party of men from Kansas, led by General William Larimer, arrived November 16th at Auraria, and crossing over Cherry Creek, November 22d, located the site and organized the Denver City Town Company. These founders of the new town resolved to make Denver the future great city of the mountains and the plains. They first built a number of log cabins, and that was the City of Denver in 1858, the first cabin being credited to General Larimer. Among these people, together with those of the rival towns, were men whose names became famous in Western history, for their exploits and intrepid daring among the Indians, for courage and endurance in suffering the privations of pioneer life, for opening to the world the mines of gold and silver in Colorado, and for the marvelous results of their enterprise and intelligence, both as the founders and promoters of this marvelous Western development. A number of these men are still living in Denver, some of them wealthy, and all of them honored citizens.

It has been said that the establishment of Denver was an incident to Western adventure in quest of gold. Time has proved that the incident was unavoidable. The first men who came to Denver were irresistibly attracted by that not usual but inexplicable force in the eternal fitness of things, to this particular spot. In this great country, so rich in mineral, in agricultural possibilities, and all the opportunities for human enterprise, the invisible hand of providence that leads the way of destiny has pointed from all time to this identical spot as the great focul point for the aggregation of industrial enterprise and genius in promoting Western settlement.

As singularly prophetic of so great a culmination of events, it is a well known fact in the history of border life, that for many years before the white man come for settlement the untenanted ground where Denver now stands was the rallying point and rendezvous of many tribes of Indians; it was the objective point and camping ground of the traders and trappers, and the paths of the buffalo led from all directions on the plains to the juncture of Cherry Creek with Platte River, near the site of the splendid City of Denver.

Population and Industrial Growth.

It has been shown that Denver attained to only 4,759 in her first twelve years. In 1880 the census was 35,629; in 1885, by Sate census, 54,000; in 1890 the National census gave the city credit for a population of 106,760. This did not include the suburban towns, which would add 20,000 to the above number. The suburban towns are thirteen in number, and with only two exceptions they are in reality, though not in name, a part of the city. They are not remote points, but the city, suburbs and all are built connectedly and into each other, and form one birds-eye view. Therefore the City of Denver rightfully includes the entire territory. The total census, with the suburbs added, make a population of 126,000. It is claimed that the census enumeration was many thousands short of actual numbers. Nearly three years have expired since the count was made, covering a period of large accessions, and it is fairly estimated that, according to the ratio of three years preceding, 25,000 people have been added to the population since the census enumeration, making a total population of not less than 150,000.

In explanation of a chart showing Denver's growth at a glance, the Denver *Republican* gives to Denver five distinct eras in its progress, to date, as follows: "First, the discovery of gold, which period lasted until 1870, when stock-raising was in its prime, and when the railroads made their advent, becoming the great forerunners of the prosperity which has been enjoyed since 1880. Then the discovery of silver in large quantities is classified as the third era. Following closely on this was the immigration and agricultural epoch, which makes the population line reach still higher. Then comes the investment and manufacturing era. This last era opened six years ago, and it has not yet seen its culmination. It has been a period of great progress, confidence and hopefulness. To a large extent, the history of Denver has been made in that time—1886–1892. In that comparatively short period, Denver more than doubled its population. In 1886, the appraised value of Denver was $32,156,515; in 1892 it was $73,000,000. From 1886 to 1892, Denver sold $284,463,330 of real estate, and borrowed $165,032,096. In a word, Denver sold more real estate, borrowed more money, paid more debts, grew more in numbers and in wealth, and advanced more in educational affairs in these six years than during the preceding twenty-eight years of its history.

These five eras of Denver's history were successive steps in the acquisition of material advantages. These advantages do not belong to the past. They are moving in the present, with strides of increasing force and rapidity. The mining for gold and silver, the live stock industry, the cultivation of the farms, with its widespread of agricultural settlement; the railroads fretting the State with their network of lines, and the numerous manufactories, from whose chimneys the smoke forms a pillar of perpetual cloud, betokening industrial life; these, and many other elements of prosperity are growing, and still laying deeper foundations for the greater Denver of the future.

It might be of interest, it certainly will be a matter of information to people abroad, to enumerate more explicitly what the special advantages of material resource are upon which Denver relies for the future, and what are the great underlying, fertilizing forces that cause such rapid and enormous growth. In answer, a few leading facts are presented:

The mines of Colorado, now in the primary stage of development, have reached an annual average yield of $30,000,000 in gold, silver, copper and lead.

Four million acres of rich agricultural lands have been made available for agriculture by irrigation. One and a half million acres are now under cultivation, yielding a surplus of wheat and a large proportion of the home supply in all other farm products.

Iron and coal exist in immeasurable and inexhaustible quantities, in close proximity, and the extensive manufacture of all iron and steel products has made a large beginning and great enterprises of this character are under projection. Denver, in addition, has convenient access to the material, possesses the facilities, has the natural location and has already become the market to a large territory for the manufacture of a great variety of wares and fabrics.

Denver is the great smelting center of the West, treating a large per cent. of the ores of Colorado, and receiving large consignments from every mining State and Territory in the Rocky Mountain region.

Denver is the greatest local and distributing fruit market between San Francisco and St. Louis, and Colorado is fast becoming the only rival of California in fruit production.

The live-stock industry is a source of great wealth. Colorado is peculiarly adapted to sheep; fine grade wool has become a successful production, and Denver has established the only manufactory between Illinois and the Pacific, for the manufacture of fine knit underwear, comparing favorably with the standard make of the United States. This factory also makes blankets and underwear peculiarly suitable for mining and all other industries of the State. Herein is a great prospective industry that will become an absolute necessity in the near future.

The Denver Paper Mills, a new industry, with an extensive plant, capable of supplying all the Rocky Mountain region with news and book paper, has been established during the past two years. It manufactures news print paper from the native mountain timbers and has already proven its present usefulness by supplying the greater number of journals in the State with paper, besides having a large outside demand. The increasing patronage from far and near already demands the enlargement of the plant.

The Overland Cotton Mills is another new and successful institution which has in the few months of its existence demonstrated that Denver is a most eligible point for the manufacture of cotton fabrics, the city having direct railway connection with the cotton fields of Texas.

These are but a few of the leading advantages of the industrial resource. An enumeration of all the material resources that contribute untold wealth and form the basis of occupation and support of a large population in this greatly favored city would furnish the subject matter of a book.

It is singular that in this practical and enlightened day we still venerate Daniel Webster as a model of human wisdom. But it was Daniel Webster who said that this area, so boundless in its riches, was a worthless sandy waste, and the mountain ranges "impregnable and covered to the very base with eternal snow." There are many men in Denver to-day that have greater foresight and much more knowledge of political economy than was ever possessed by Daniel Webster and his associates in the United States Senate of 1838. These desert wastes have become the fruitful fields and happy homes of thousands of people, and the "impregnable" mountains have yielded their millions of treasure since that memorable speech was uttered, relieving want and giving wealth to millions of the Nation's people. Denver, as the typical star of the Western empire, became the first light of this new revelation. The rest of the story is told in the record of her industrial development.

Real Estate.

Nothing better illustrates the prosperity of a city than the thrift of its real estate market. The rapid growth of values in real estate during the past six years, coupled with a decreasing rate of interest, proves that investment in Denver property is equal in security to Government bonds, and far better in its returns. The most conservative capitalists have invested freely in Denver real estate, always with gain, in some instances making a fortune in a single transaction. The most brilliant feature of the real estate market of the past year, has been the freedom with which Eastern investors have loaned money on property, improved acreage and trackage. Nothing could better demonstrate the permanent character of Denver.

The total sales of Denver city real estate, unplatted acreage and miscellaneous property in Arapahoe County for the past thirteen years, (1880 to 1892, inclusive), amounted to $334,333,901. The largest sales were made in 1890, the flush year of the Western country, when the figure reached $65,829,925. The sales of 1892 aggregated $40,308,026. The sales of 1880 aggregated $5,633,000, with little increase till 1886-'87, when, in the latter year, they reached $29,176,752. In 1888, $41,239,545. The record of the four succeeding years is of peculiar interest:

1889	$ 60,392,098
1890	65,829,925
1891	47,515,364
1892	40,308,026
Total for four years	$214,046,033
Deducting for acreage and miscellaneous County property	24,774,020
Gives to Denver alone the credit of	$190,272,013

The decrease shown for the past two years is not in any sense disparaging, when it is considered that values had fallen off in common with the country, and that the larger investments were made in building and in manufacturing enterprises. When the facts are presented, showing the ratio of increased values for a period of ten years, and when it is considered that within the past six years $165,032,096 has been borrowed on Denver real estate, this apparent decrease does not affect the real value of Denver property. In this connection, a summary of the releases and foreclosures from 1880 to 1892 is of special interest:

Number of releases	55,870
Number of foreclosures	2,303
Number of trust deeds	79,557
Amounts of trust deeds	$193,114,085

The loans on property in Arapahoe county for the three years past have been: 1890, $41,694,587; 1891, $35,415,517; 1892, $25,794,252. With a steady decrease in the rates of interest from year to year, the range in 1892 was from 5 to 12 per cent. the largest amount being loaned at 8 per cent., and the average rate of interest paid for all loans on real estate for the year 1892, was 7.223 per cent. This in itself shows the faith of the capitalist in the permanent prosperity of Denver. It is impossible in this work to convey an adequate idea of the rise in values throughout a period of successive years. The subject could not be fairly comprehended by the reader without an understanding of the peculiar and rapid growth of the city and the changes incident thereto as, for instance, the magnificent rebuilding of the business center and the consequent wide-spread growth of the residence portion, all within the last decade. A few examples of the values of pairs of inside lots during three important periods may serve the purpose in some degree.

	1872.	1889.	1892.
Pair lots, 50x125, value	$ 3,000	$ 25,000	$ 30,000
" " "	12,000	65,000	75,000
" " "	8,000	75,000	90,000
" " "	1,000	16,000	30,000
" " "	3,600	80,000	85,000
" " "	600	14,000	32,000
" " "	1,800	30,000	40,000
" " "	2,000	60,000	75,000
" " "	1,600	90,000	95,000
" " "	800	35,000	45,000

These figures show the average increase in thousands of transfers, both of inside and outside or suburban properties.

In 1864, forty acres were pre-empted in what is now the heart of Capitol Hill, a residence portion, cost $50. In '72 sold at $75 per lot; present value of ground, unimproved, $1,500,000, and value increasing. In 1871, in a tract still outside, 700 lots were purchased for $9,100, present value $385,000. In 1886, in outside district, 160 acres for $32,000; present value, $500,000. And thus on through the history

of platting acreage property on the outskirts as Denver has rapidly advanced from center to circumference through this brief period of years.

Buildings.

Within the past two years the business center of the city has been ornamented by the completion of numerous handsome towering blocks of granite, brick and stone, graceful in architectural lines, and massive in construction. No Western city can compare with these buildings. They would be creditable to New York or Chicago, and have the superior merit of stopping at eight and nine stories. A view of these splendid blocks throughout the center of the city, and the miles of handsome residences surrounding, is a startling revelation to the visitor after a journey through great waste of territory west of the Missouri river. In these are combined wealth, business prosperity, advanced ideas, artistic taste and confidence in the permanency and future growth of the city. Among the greater buildings of recent completion are magnificent structures where the foundations are laid for centuries to come, with superstructures embracing every detail of modern art for durability and charming ornament. In such artistic effect is employed iron and nickel and silver, the fine clays, granite stone, marble and onyx. Only a few of these buildings can be here mentioned, together with the approximate cost of their construction, as follows:

The Equitable building, nine stories, granite, pressed brick and terra cotta trimmings, $1,500,000. The Brown Palace Hotel, nine stories, entirely of Arizona red sandstone, the rotunda finished in Mexican onyx, absolutely fire-proof, $1,400,000. Mining Exchange building, one of the most beautiful and substantial in the city, its chief characteristics being its solidity, and uniqueness of design, of granite foundation, red sandstone and brick, seven stories, $300,000. The new Cooper building, eight stories, a structural gem of the city, $225,000. Masonic building, six stories, granite and red sandstone, hard wood finish, carved exterior, $250,000. Kittredge building, seven stories, granite and white lava stone, $400,000. The Peoples National Bank, one of the most attractive business buildings in the city, nine stories, granite and red pressed brick, $265,000. The Court-house is a model of some of the finest State capitals in the Nation.. Ernest & Cranmer building, eight stories, red sandstone and pressed brick, $400,000. The California Building, six stories, $150,000. Boston block, an ornate and majestic structure, nine stories, $300,000. School buildings, ranging from $25,000 to $225,000. Church buildings from $25 to $280,000. The new Capitol building, nearly completed, at a cost of $2,500,000, of gray granite. The new Government building in the heart of the city. Value of 50 buildings—including some churches, $26,954,000.

BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 1892.

Residences	817	$ 3,127,676
Business	104	1,205,194
Schools and Churches	12	337,920
Repairs and enlarging	895	480,080
Frame buildings	4	2,088
	1,832	$ 5,151,958

The following table shows the total record of building permits issued from 1880 to 1892 inclusive:

Year.	Value.	Year.	Value.
1880	$ 3,517,360	1890	$ 12,835,394
1881	3,225,480	1891	5,704,377
1882	2,838,480	1892	5,052,958
1883	1,578,980		
1884	1,900,420	Total	$ 60,127,903
1885	709 980	Public buildings and suburban towns	7,828,170
1886	2,000 661		
1887	4,007 050	Grand total	$ 67,956,073
1888	6,049 386		
1889	10,807,377		

The past two years was the period of finishing the larger and more costly buildings for which permits were issued in previous years, while the greater amount for the current two years was for residences to accommodate increasing population, a number of these homes costing $40,000, while Denver contains dwellings costing $150,000. Denver is a city of beautiful homes, and this is the most charming attraction to the visitor, being a perpetual delight to the people of Denver, who may see them every day. In Denver the big buildings are centrally located, while there is mile after mile of separate dwellings, of the prettiest and most ornate styles of architecture. They stand apart, with beautiful yards adorned with green grass, shrubbery and flowers, and many a home is of itself a charming little paradise. They are built with great architectural exactness and taste, and with conspicuous versatility, the materials predominating, red sandstone and pressed brick, with the handsomest trimmings in variegated stone and marble.

Assessed Valuation.

The city is limited by law to a tax rate of 10 mills on the dollar, which is levied on a third valuation of its property. So far 10 mills has been the rate levied. The assessed valuation for Denver in 1892, was $73,563,710. For 1893, the assessor's estimates of valuation for Denver, is $75,000,000, including suburban corporations to be included in city limits, $90,000,000. Thus the estimated real valuation of the city, is $270,000,000. The table of assessed valuations for a period of twelve years, shows a marvelous increase, especially during the past five years. The valuation in 1880 was $16,294,092, against $73,563,710, (not including suburbs) for 1892.

The Banks of Denver.

There are eleven National banks, three savings banks and numerous private banking firms in Denver. The National banks are old, well established institutions. They are noted far and near for their stability. The panics which have agitated the financial world in the past, have had little effect upon them. They are under the management of some of the best known financiers in the West, and have large resources behind them. Their paid up capital stock amounts in all to $5,500,000. The resources of the eleven National banks at the close of 1892, was $29,217,536.44, against $25,660,461.98 in 1891.

Combined capital and surplus	$ 7,410,000 00
Deposits	20,585,766 00
Loans	17,769,700 00
Resources	29,217,506 00
Clearings for 1892	265,985,177 79
Increase over 1891	37,630,177 57
Clearings in 1887	117,589,505 00
Capital in 1887	2,357,250 00

The following table is a comparative statement for the past eight years:

YEAR.	LOANS.	CAPITAL.	DEPOSITS.
1884	$ 4,608,689 00	$ 2,070,076 00	$ 7,220,470 00
1885	5,763,489 00	2,139,649 00	9,089,324 00
1886	7,399,334 00	2,296,575 00	10,889,715 00
1887	9,554,557 00	2,357,250 00	12,542,693 00
1888	11,060,874 00	2,735,966 00	14,307,196 00
1889	12,143,751 00	3,537,805 00	18,408,078 00
1890	15,685,659 00	6,474,765 00	17,150,534 00
1891	15,414,542 00	6,395,000 00	17,818,208 00
1892	17,769,710 80	7,410,000 00	20,585,766 59

Rates of interest for short loans is from 12 to 8 per cent., according to the collateral and amount. Real estate loans, long time, 7 and 8, sometimes 6 per cent.

Commercial.

The wholesale trade of Denver includes home manufactures, as well as the great volume of merchandise drawn from the markets of the world and her patronage for all goods and wares, whether of home or foreign product, comes from all the States and Territories between the Missouri River and the Pacific Ocean. The wholsesale trade of Denver was as follows for the past two years:

1891	$ 43,510,500
1892	47,647,020
Increase, 1892	$ 4,136,520

Freight receipts, car loads, all commodities, merchandise and raw material, including ore for the smelters:

1891, No. of cars	172,429
1892	176,058
Increase	3,629

Live Stock Center.

As a cattle market and a general live-stock distributing point, Denver is taking high rank. Its packing-house business has become important to all the West, and shows a gratifying annual increase, together with all branches of the live-stock industry. The business of 1892 is summarized as follows:

RECEIPTS.

Cattle	144,514
Hogs	84,073
Sheep	133,683
Horses and mules	11,350

SHIPMENTS.

Cattle	132,906
Hogs	2,661
Sheep	91,222
Horses and mules	11,139

DRIVE OUTS (FOR PACKERS AND CITY USE.)

Cattle	53,129
Hogs	79,481
Sheep	62,587

The packing establishments of Denver are equipped for unlimited amount of business, anticipating the future wants of the West.

Coal and Iron.

In these two elements of material resource in the State there is a great reserve of wealth for Denver. The production and trade in coal, as it is now carried on can only be regarded as incidental to the necessities of a growing population. But the supply of coal and iron, as well as all other accompanying materials requisite for manufacture, lie close together throughout the State. Denver has already been designated as the future central manufacturing point, and the first establishment for the manufacture of iron and steel in the city is now under construction.

Public Improvements.

Nearly $1,000,000 were spent for public improvements during the past year. One hundred and sixty-six thousand square yards of permanent street paving were laid. The business center was laid with level, smooth, durable asphalt and sandstone block paving at a cost of $549,414; of this amount the property owners paying $343,339, showing public spirit and enterprise. The sanitation of the city was improved by the completion in 1892 of 7 1-5 miles of sanitary sewers and 8.50 miles of public storm sewers at a total cost of $449,603. Within the past two years large extensions of sidewalks of stone flagging have been made. Within the past three years there has been a most commendable movement toward the establishment of a system of public parks and boulevards around the city. Ten years ago there was but one public park, which did not become available as a place of resort till three years ago. Now there are five public parks and numerous delightful gardens and lakes, equipped with good theaters and all the arrangements for the pleasure and recreation of the people, situated within the surroundings of the city and easily accessible by the numerous lines of electric and cable railways.

As a Convention City.

That Denver is one of the best equipped convention cities in the United States, was proved during the Conclave of the Knights Templar in 1892, when 100,000 visitors were well cared for and entertained. The estimate of 150,000 for Denver's present population is not extravagant. It is not too great an estimate to say that the city can entertain an equal number of visitors. In addition to its thirteen leading hotels, Denver has about sixty second-class, private and family hotels, and upward of one hundred boarding houses, and double that number of lodging houses, the majority of them being near by the restaurants. With the latter, Denver is provided in an extravagant degree. In addition, the homes of Denver are capacious and its citizens hospitable. The city now has the record of having entertained the largest crowd that ever gathered upon a single occasion in America.

Street Railways.

No city on the globe is provided with so ample and so efficient street railway service as Denver. The city is gridironed with car tracks that lead to the remotest suburbs, and there is no part of the city that is not convenient to some car line, and every line is one of rapid transit, with the exception of one short horse car connection. With this exception, the old system has been entirely supplanted by electric and cable cars for the city proper and steam motors for the outlying districts. The length of the trackage of the several companies is 173 miles, and of this total the electric lines cover 110 miles. The trackage is divided between the several companies as follows: Denver Tramway company—electric, 84 miles; cable, 13 miles. Denver City Cable company—cable, 30 miles; electric, 10½ miles; horse car, 5 miles. Colfax electric, 10½ miles; Denver, Lakewood & Golden—electric, 5 miles; steam motor, 15 miles. These systems of rapid transit are a consummation of the past three years and have contributed largely to Denver's growth and development. Other lines are projected and will soon be constructed.

The Churches.

Denver has seventy-six church buildings under various denominations, while there are more than one hundred places of worship, including churches, missions and places of religious meeting of various kinds. Of the larger denominations the Catholics have 9 church buildings, Presbyterians 9, Episcopalians 8, Methodists 10, Baptists 10, Congregationalists 9, Christians 4, Lutherans 5, and other denominations and religious societies one each. Church communicants in Denver are estimated at 48,000. Of this number the Catholics have 26,000. A number of the most beautiful and costly churches in America have been built in Denver within the past few years, and the church property is valued at $3,500,000.

Schools of Denver.

Denver is celebrated the world over for the excellence of its public schools. No country has a system having greater advantages of education, and all cities in America are surpassed by the magnificence, durable character and costliness of its school buildings. The State has a school enrollment of 76,000 pupils. Of this number Denver has 26,000 for 1893, a gain of 3,090 over 1892. This number includes the various suburban districts, embracing 42 public schools. The Denver High School is the crowning glory of the educational institutions of the State. The property is valued at $768,195.41. It contains sixteen class-rooms, with 700 seats, having nineteen teachers and an average daily attendance of 633 pupils. Some of the brightest young minds of the West entering into business affairs, the Colleges, the professions, and into social and literary life, are the graduates of the past few years from the Denver High School.

Under the Catholic Church there are eight large parochial schools; there are numerous denominational institutions of learning. There are private schools of various character, many of them being noted for their excellence, and the average attendance is estimated at 3,000.

For the higher education the University of Denver, under the Methodists, is the largest institution of learning west of St. Louis, having ten departments and numerous costly buildings. Under the Episcopalians, Jarvis Hall for boys, and Wolfe Hall for girls, are splendid institutions. The Presbyterians have established Westminster University, and the Catholics have established, besides the Loretta Academy, the Jesuit College, an institution of general education.

Within the past few years two public libraries, the Mercantile and the High School library, have been established for the free use of all the people. The former was established in 1886 by members of the Chamber of Commerce. It is a general library amply supplied with histories, reference books and all the popular literature of the day. It is sustained jointly by the city and the Chamber of Commerce. It now contains 24,000 volumes. Four thousand five hundred volumes were added in 1891 and 6,000 in 1892. The High School library is similar in its design, being maintained by School District No. 1, and containing at present 15,000 volumes.

Charitable Institutions.

To the women of Denver, is due great praise for the excellent work done by them toward ameliorating the condition of their wage-earning as well as unfortunate sisters. Each year has seen the birth of some new organization with the purpose to relieve pressing wants and place woman on a higher plane, some of the associations looking after the welfare of unfortunate or deserving men as well as women. For these purposes there are associations, homes and hospitals, and large sums of money are annually expended and incalculable good work performed.

Climate and Health.

Colorado climate is acknowledged by the most celebrated climatologists in the world to be the most healthful to be found in America. Colorado air is dry and pure, full of ozone and brilliant with sunshine. It is between the extremes of summer and winter, and free from excesses of moisture, as all these conditions exist north and south. One of the most healthful places in the State is Denver. Its altitude of one mile is the medium ground so beneficial to consumptives and asthmatics, and so invigorating to one in health and active in the affairs of life. Thousands of the afflicted who have been cured or greatly relieved, attest the beneficial results of a residence or sojourn in Denver. In another part of this publication will be found a condensed meteorological table, together with observations on Colorado weather. The following extract from a paper read by Dr. C. Theodore Williams, president, before the Royal Meteorological Society, London, on the "High Altitudes of Colorado," is applicable to Denver:

The chief features of the climate of Colorado appear to be: "First, diminished barometric pressure, owing to altitude, which throughout the greater part of the State do not fall below 5,000 feet; second, great atmospheric dryness, especially in winter and autumn, as shown by the small rain-fall and low percentage of relative humidity; third, clearness of atmosphere and absence of fog or cloud; fourth, abundant sunshine all the year around, but especially in winter and autumn; fifth, marked diathermancy of atmosphere, producing an increase in the difference of sun and shade temperature varying with the elevation in the proportion of one degree for every rise of 235 feet; sixth, considerable air movement, even in the middle of summer, which promotes evaportion and tempers the solar heat; seventh, the presence of a large amount of atmospheric electricity. Thus the climate of this State is dry and sunny, with bracing and energizing qualities, permitting out-door exercise all the year round, the favorable results of which may be seen in the large number of former consumptives whom it has rescued from the life of invalidism, and converted into healthy, active workers, and its stimulating and exhilarating influence may also be traced in the wonderful enterprise and unceasing labor which the Colorado people have shown in developing the riches of their country."

Though always noted for its general healthfulness and the benign influences of its climate, great effort has been made within the past two years for the improvement of the sanitary conditions of the city. This work has been accomplished by the combined efforts of the officials and the people at large, who have cheerfully assisted in stringent laws for the protection of the public health. Sanitary inspection, food inspection and the various public works in behalf of the beauty as well as the health of the city, have shown their beneficent effect. No exhibit of the city's sanitary condition is so comprehensive as the statistics of mortality.

The twelve months ending November 30, 1892, are credited with the lowest mortality record of any year of which there are accurate figures preserved. The comparative table for the last six years is herewith presented:

Year.	Population.	Total Deaths.	Rate Per 1,000.	Typhoid Deaths.	Diphtheria and Croup Deaths.
1886	73,000	1,119	15.33	.....	.....
1887	80,000	1,525	19.06	99	.....
1888	85,000	1,729	20.34	134	120
1889	96,000	1,808	18.83	188	115
1890	106,713	2,530	23.71	263	267
1891	113,874	2,118	18.51	99	175
1892	120,000	1,736	14.48	70	90

Official reports of the past two months indicate decreasing per cent. of mortality.

In this mortality record it must be remembered that Denver is an invalid resort, and a large per cent. of deaths is from diseases contracted in other countries.

One of the supreme advantages of Denver is its ample water facilities. Two companies supply the city with mountain water, one of these companies conveying the water from the snow banks of the mountains direct. In addition there are hundreds of artesian wells in the city and its suburbs, so conveniently distributed as to be accessible to all citizens for drinking and bathing. This water is almost chemically pure, and where containing mineral, it is highly conducive to health.

The Newspapers.

Denver contains nearly 100 newspapers and periodical publications of various kinds. These include six dailies, two morning and four afternoon journals. The morning papers are the *Rocky Mountain News* and the *Denver Republican;* the afternoon papers, the *Colorado Evening Sun*, with Sunday morning edition, the *Denver Times*, the *Denver Post* and the *Colorado Journal*, (German.) The four papers first named, similar in size to the papers of the large cities of the country have a first-class and thorough equipment, under the management of experienced newspaper men, having complete metropolitan organization, employing accomplished editorial writers, while as a rule men of perspicuity and trained professional alertness, enterprise and intelligence peculiar to Western life form the corps of reporters and correspondents for all the Denver dailies. The advertising patronage is enormous, and through these papers it can be truly said is daily reflected the commercial vigor and the sprightly social life for which Denver is famous.

Commercial Organization.

The influence and usefulness of the several organizations of business men in Denver are recognized in all parts of the land. The bodies are composed of the leading and most enterprising and intelligent business men of the city, also representing the greater share of its wealth.

In the work of promoting, not only the welfare of the City of Denver, but that of the whole State of Colorado, the Chamber of Commerce and Board of Trade has always been a leading and potential factor. This organization has a membership of 555, including in its list a large number of eminent men representing the professions as well as the industries. Thus all questions affecting the interests of the city at large, receive consideration at the hands of an aggregation of Denver's best intelligence. Always ready to meet the measures of public enterprise, it is quick to act and generous in its response to the demands that are frequently made upon it for aid and encouragement, both in the way of financial assistance and the active, diligent, persevering work of its individual members. A great deal of voluntary work is also done by the Chamber of Commerce in the way of giving information abroad through correspondence and special publications concerning the resources and advantages of city and State. It is also ever on the alert for all national business movements and measures and makes its influence felt in behalf of the leading interests and industries of the West. By recent purchase, the Chamber of Commerce now occupies and owns the magnificent Mining Exchange Building.

The Manufacturers' Exchange, an organization growing out of the Denver Chamber of Commerce, is one of the most useful institutions for promoting the industrial interests of the State. It embraces in its membership all the manufactures of note in the city. While in the general course of its management preserving the mutual interests of a local association, it becomes the headquarters and central source of information concerning the resources and advantages of manufacture in the State. Through the efforts of the Exchange in this direction, facts and statistics of great value concerning the variety and abundance of raw materials have been gathered from all parts of Colorado, and this information is disseminated by correspondence and publications that reach all parts of the United States and all the countries of Europe. By its investigations it has brought to light a great combination of material resources, established the possibility of the manufacture of almost all manner of wares in Denver and the certainty of a market for them in due time.

The Mining Exchange, with a membership of about 250, has been in existence for the past five years, and was organized for the purpose of assisting those having meritorious mining properties to raise money for their development. Such capacity the Exchange stands as agent and counsel for the protection of the investor and the assist-

ance of the owner in the development of prospects, in the disposal of shares. The sale of mining stocks on call is conducted in a manner similar to that of all stock exchanges of the country.

The Denver Real Estate Exchange is a central body of reference for its members, to encourage and maintain uniform business principles and usages in real estate transactions; to disseminate valuable information appertaining to real estate in the city and State; to inspire closer fraternal relations between agents, owners and purchasers of realty; to influence and direct legislation in reference to laws touching the transfer of realty; to discourage wild speculations and fictitious booms; to encourage and direct as far as possible the investment of money in those sections promising the greatest and safest returns; to elevate and dignify the real estate business; to be a medium of information as between buyer and seller, where wants are to be filled and offers to be met.

Its Social Life.

The social life of Denver is a most interesting study. It is a puzzle to the new comer. It is not understood by those who move along with it. It has overcrowded and overshadowed the old-timer, and his traditions of thrilling events in the early days have lost their whilom charm. If it is difficult for people at home to understand the social conditions by which they are surrounded, perhaps there is one sufficient explanation, and that is the rapid increment of a mixed but versatile people. The population is conveniently termed cosmopolitan. In the true sense of the word it is not so. We have the average per cent. of the Irish, English, German, Swede and Italian nationalities for large inland cities. The Chinese are not numerous. The people of other nationalities than those named are exceedingly few. The great mass of the population are American and they came from every State in the Nation, the Canadians forming quite an important community. These American people, coming for the most part in families, with some definite purpose in view, bring with them their provincialisms and their peculiarities. Many bring wealth with its advantages of education and refinement, many more come in poverty, but with industrious habits, with an honest purpose and an avocation. The horde of shiftless adventurers must be taken into account only as a part of the great drift of the world upon the turbulent sea of human life. Whether he is a man of wealth or the man well-to-do, or the artisan, the mechanic or the man of trade, he builds or buys a handsome home or settles in a rented habitation and begins the pleasures or business cares of life before the nearest neighbor has knowledge of the advent of a new addition to the population of Denver.

As life in Paris is distinctively Parisian, so life in Denver is distinctively Denverian. Such are the social and business conditions that people on a common plane easily become acquainted. The social, fraternal and religious organizations of the city embrace its popula-

tion from the highest to the lowest degree and no man or woman need remain unknown. Not this alone; every trade and department of labor has its distinct organization, and there is an orderly, methodical harmonious trend to every department of the city's social life. Albeit, Denver is a city of gaiety and great diversity of character.

It has been written of every large city that it is "the most wicked city in the world." Against this accusation Denver needs no defense. It has simply its share of vice, but a more intelligent, industrious, cultured and orderly aggregation of people never formed the population of a large city. It contains the best schools and the largest number of churches of any city of its size in the Nation. Every denomination and creed and peculiar religious belief is represented. The churches are of superb and costly construction, the ministers are of the highest intellectual order, and their audiences reflect the intelligent, moral and business strength of the community. Herein consists one of the prime orders of social freedom in Denver. The churches are not of the primitive, straight-laced order, and their members enjoy free, social intercourse, one denomination with another.

For the divertisement and culture of the people, whether of the wealthy or the industrial classes, there is no end to the number and variety of institutions and associations. For the benefit of the latter, the building and loan associations are numerous and, resembling Philadelphia in a very essential sense, it is possible for every diligent workman to secure a home of his own, with its advantages of comfort, amusement and social attraction. For all the people combined, first for amusement, there are two first-class, splendid theaters, the Tabor Grand and the Broadway—two smaller but popular theaters, having great patronage, variety theaters that serve their peculiar purpose and a score of public halls, capacious and substantial, for all manner of public entertainment. The clubs embrace the ordinary social and business interests of life. The two leading gentlemen's clubs own buildings among the most conspicuous in the city. There are the political clubs, athletic clubs, the cyclers' clubs, the literary and musical clubs, the social clubs without number; art and dramatic clubs and associations, and some excellent schools of music, art and oratory. In all these things there are advantages special and peculiar to the young people of the city. Only the children who are growing into manhood and womanhood are the natives, and these are being ushered into the affairs of life with a training to industrial thought and habit, with all the advantages of education and artistic culture, with unbounded opportunities of amusement and social enjoyment, with all these advantages, it is already apparent, as reflected by the young men and women who have grown up in the midst of this new western life, that Denver's population in the near future will be distinctively of a high order in their intellectual attainments, their business capacity and social excellencies.

The Counties.

Arapahoe.

THE scenes and incidents that form the opening chapters of the State's history, were enacted on the soil of Arapahoe county. It embraces some of the vast domain upon which roved, in undisputed possession, the Indian tribe whose name the county bears. It became the ground of the first white settlement of the State in 1858. It was organized when Territorial organization began, in 1861. Its early history is associated with the stirring events of the Civil war, with the thrilling incidents of pioneer and border life, conflicts with the savage red man, and his final subjugation, becoming a part of the story. Its people were the first in bringing out of the chaos of the wilderness to a condition of law and social order, and as the leading factor in the State's development, it contains one-third of its population, and more than one-third of its taxable wealth. The county contains an area of 4,950 square miles, being 165 miles long by 30 miles wide. It extends from within ten miles of the foot-hills, on the west, to the Kansas State line, on the east, and its surface is, for the most part, a level plane. The great center of population is in the western end of the county, where the magical City of Denver is located, and where the county's enormous wealth is concentrated. Denver is the County seat, as it is also the capitol of the State. It has a population, conceded by estimate, to be 150,000, and, because of its rapid and wonderful development, its commercial importance and its multiplying wealth, it overshadows the great county of which it is a contributary part.

A large portion of the eastern and a narrow strip of the western end of Arapahoe county possess rich agricultural lands, and contain prosperous farming communities. The central part, containing the larger area, is unwatered either by streams or clouds sufficiently for agricuiture, and it still remains, as it has been from the earliest days of settlement, a part of the great cattle range of Eastern Colorado. The Platte river, flowing through the western end, affords water for irrigation to a strip of country from six to ten miles in width, comprising the Platte valley to the counties of the northern boundary. Situated in this valley, ten miles south of Denver, is the town of Littleton, surrounded by beautiful farms and gardens, richly productive of the cereals, fruits and vegetables. Nineteen miles down the Platte to the north, is the flourishing agricultural town of Brighton, surrounded by a farming section, equally productive, while to the south-east adjoining the suburbs along the valley of Cherry creek, are a number of farms and gardens and fruit lands with the young orchards just coming into the first years of their bearing. All this

surrounding country is tributary to Denver and the greater portion of the land is devoted to the garden and the dairy. The country for miles is chequered with gardens and small farms for fruits and vegetables, while the dairy is an important institution and contributes a large share toward the supply of the home market in its various products. Denver consumes all that can be produced in the adjoining gardening and fruit country, and the market prices for such products rule high, so that truck gardening has become very profitable.

In addition to these various branches of agriculture, while the live-stock interests become more or less a part of the farm, there are within the vicinity of Denver some notable stock farms for the breeding of fancy cattle and thorough-bred horses. The products of one of these farms are noted among the best bloods of the American turf and are a source of large revenue to the owners. The catalogue of the principal stock-farm of the county contains a list for 1893 of five stallions, forty-six brood mares, five geldings and fifty colts and fillies, having for the greater part, pedigrees from the most celebrated stock of the country.

The eastern end of the county, embracing an area equal to 1,200 square miles, lies in the "rain-belt" division of the State, being beyond the reach of irrigation, and dependent upon the rain-fall for crops. This country comprises for the larger part, an area of 24x30 square miles including all the eastern end, and a strip running westward therefrom in the southern portion, a distance of forty-eight miles and having an average width of ten miles, confined to the valley of the Arickaree river. Within the territory described, there is an ample annual rain-fall. Migrating farmers from Nebraska and Western Kansas, about ten years ago, discovered the advantages of this section and began to make settlements. Now the country is being settled throughout with farms and villages, and it is destined to be one of the richest agricultural settlements in the State. Unlike other arid sections of Eastern Colorado, the area of tillable lands as described lie under peculiar meteorological conditions. Here the cold currents from the mountains and the warm currents from the southern plains meet and condense, besides attracting the drifting vapors from the "divide," which have an invariable movement from west to east. The soil is a deep, rich, sandy loam, highly productive of corn and wheat, these being the leading crops, while all manner of farm products are successfully grown. The average production of corn is about forty bushels to the acre; wheat, twenty-five bushels. In the more favored localities, the yield has been forty bushels of wheat, weighing sixty pounds to the bushel. While it is a distinctively agricultural country it has also good advantages for live-stock and it presents a fine field for the combination of these industries. The people who have settled here form an intelligent, industrious class, and in building their homes and villages they have taken care to make ample provision for schools and churches, and the educational and religious advantages are up to the average of all similar settlements in the

State, in a manner isolated from the main centers of population, with their convenient facilities of commerce and social communion.

The population of Arapahoe County (by census returns), in 1890, was 132,135. With an estimated increase of 25,000 for the City of Denver, since the enumeration, the total population may be fairly stated at 157,135. Allowing 150,000 for Denver, thus 7,135 may be placed to the credit of other towns and villages, the several farming communities, and those employed on the ranges.

The total assessed valuation of the county for 1692 was $101,672,607, as against $92,887,040 in 1891. This assessment embraces for 1892, $55,667,694 for town and city lots, and $21,441,237 for improvement and machinery on town and city lots, making a total of $77,108,931, of which Denver's share, including all assessable property, was approximately, $73,000,000. Number of acres of agricultural land assessed, 424,669; valuation, $8,231,652; number acres of grazing lands, 593,509; valuation, $1,207,033; acres of coal land, 2,560; valuation, $10,000. Total lands under assessment, 1,018,178 acres; valuation, $9,438,685. A large proportion of the lands designated as agricultural are pre-empted, and as yet uncultivated lands, while the greater amount of assessed valuation is upon garden and open-platted lands surrounding Denver. While for 1893 there will be considerable increase in the value and amount of assessable property, the reduction made in the rate of taxation will materially reduce the valuation for the year. Official estimates place the valuation approximately at $99,000,000 for 1893. Of this amount, it is estimated that the assessed valuation of Denver will be $75,000,000, and that of the suburban towns, which are in reality a part of the city, $15,000,000, making a total of $90,000,000, leaving an estimated balance of $9,000,000 for the remainder of the county. This latter comparatively small figure will not appear so unimportant when it is considered that the greater amount of uncultivated, pre empted and railroad lands, having a very low market valne, are assessed at merely a nominal figure.

In reference to the total assessment. The rule obtains in Arapahoe, as well as all counties of the State, that all property is assessed at one-third its value. It is also well known that the levy for manufactures, personal and household property, averages much less than one-third of real values. Hence, assuming the assessed valuation of Arapahoe County to be, in round number, $100,000,000, it is entitled to the credit of $300,000,000 as its real wealth in taxable property.

Live stock statistics for the past two years show the animal industry of the county to be important, with considerable increase in numbers.

	1891	1892
Horses, number of	15,246	16,332
Mules, " "	847	929
Cattle, " "	19,186	22,024
Sheep, " "	52,904	71,471
Swine, " "	1,986	2,432
All other animals	362	1,223

To make up unavoidable discrepencies in assessor's returns, it is permissible to increase the above figures by 20 per cent. While the number of sheep is fairly maintained, the number of cattle is greatly diminished in late years, due to the conversion of the best ranges into agricultural lands and the distribution of the cattle, as well as other live stock, among the farms, where they are bred and raised in less number but greatly improved condition. Thus a larger number of improved graded cattle and fine dairy stock are included in the total number. The county is well adapted to the cultivation of fine stock and the future holds great opportunity for both increase and improvement in the production of sheep for wool and fine breeds of cattle, both for dairy purposes and for slaughter. The recent establishment of a woolen mill in Denver will give new life and thrift to sheep raising, while the cattle growers may find encouragement in the extensive packing house facilities that have been added to such establishments in Denver during the past two years. By such enlargements it has been demonstrated that Colorado can raise, fatten and slaughter its animals and send dressed beef to Eastern markets, instead of drawing from them the greater part of its supply. It could at least supply home demand and have a large market in the west.

Nothing can so clearly tell the story of Arapahoe county's advancement as the record of its annual assessed valuation covering a period of the past sixteen years, which is as follows:

Year.	Assessed valuation.	Year.	Assessed valuation.
1877	$ 10,686,991	1885	36,422,085
1878	11,993,990	1886	38,202,415
1879	16,517,693	1887	47,037,574
1880	18,830,603	1888	55,516,175
1881	28,970,573	1889	68,102,975
1882	34,557,720	1890	86,445,020
1883	34,912,030	1891	92,887,040
1884	36,201,720	1892	101,672,657

The general tax levy for 1892 was $2\frac{11}{30}$ mills; total tax for general purposes $240,625.29; total tax, general and special, $440,106.98.

No section of country in the world possesses greater advantages of industry, education and religion. The school census of the county is 31,288; number of schools, 500; value of school property, $2,879,055. There are more than a hundred churches, and seventy-five newspapers in the county, there being three morning and four evening daily papers in the City of Denver.

Arapahoe County combines all the essentials of social and industrial life that form the sterling character of a community or a commonwealth. Its leading industries are, and must ever be, agriculture, manufacture and the live stock business. But as it contains the capital, the great metropolis and railway center of the State, it will always maintain the first position in commerce and wealth, and wielding the controlling power in the affairs of the State.

Archuleta.

The County of Archuleta occupies a central position among the southern tier of counties. It is an agricultural and grazing county, also possessing considerable mineral resource, which as yet has had but little development. It is especially well adapted to stock-raising, and adjoins the counties embracing San Luis valley, and also three of the counties comprising the great San Juan mining region, including the great silver camp of Creede. The county has an area of 1,950 square miles, with an elevation of 5,280 to 10,000 feet. About three-fourths of the territory is covered with fine pine timber, suitable for lumber, and the remainder open parks and valleys. The surface is rolling and mountainous, and drained by the Piedro, San Juan, Blanco and Navajo rivers, furnishing ample water for stock and irrigation purposes. The soil is black and loamy, productive of the cereals and grasses to a very high degree. The county seat is Pagosa Springs, so named because of the splendid mineral springs located there, and which have been for years a favorite health resort.

The population of Archuleta county is about 900. The county was organized in 1885 from the western part of Conejos county. At that time the valuation of the new county was approximately $300,000, the assessed valuation is now $412,722.50, real valuation, estimated $1,300,000. There are five public schools in the county, having a school census of about 200. The estimated total acres of agricultural land is 124,000 acres; for grazing, 1,000,000 acres; acres under irrigation ditches, about 30,000; unoccupied puplic lands about 12,000. The large area credited to timber lands includes a large part of the timbered country, which affords fine protection as well as good pasture for live-stock, and the live-stock industry is one of success and profit. The general character of the mineral formation is lime stone, in which there have been numerous discoveries of prospects, with but little development. There are great bodies of sandstone and numerous coal veins, but owing to the great plenty of wood and the lack of ample railway facility, but little development has been made, the Denver and Rio Grande railway passing through a portion of the county, a distance of twenty-seven miles. There are hundreds of slate banks not yet utilized. Asbestos is abundant. There are large deposits of gypsum and limestone. Building stone is abundant but undeveloped. Crude petroleum is found in the San Juan river, two miles below Pagosa; also in numerous places on the Rio Blanco, twenty miles from Pagosa. Archuleta, having a mild southern climate and a rich soil possesses all the advantages characteristic of South-western Colorado for a combination of industries with agriculture and live-stock as the leading interests.

Baca.

The County of Baca occupies the extreme south-east corner of the State, with an area of 2,536 square miles. It comprises a fine agricultural country, productive of all kinds of crops. The county was organized in 1887, and is therefore new, with comparatively small development, and with a population of 1,800. Its elevation is 4,400 feet. Three hundred square miles of the territory are covered with cedar and cottonwood. The remainder is an undulating prairie, watered by the Butte, Horse, Bear, Sand, Arroya, Carriso and Cimarron creeks, small streams, whose waters are utilized for stock and domestic purposes. Farming is carried on without irrigation, and agriculture and stock-raising are the principal industries. The county seat is Springfield, and the other towns and villages, all the centers of agricultural settlement, are, Vilas, Stonington, Minneapolis, Brookfield, Atlanta, Carisso, Boston, Plymouth, Maxie and Carrisso Springs.

Assessed valuation of county, $700,000; real valuation, $1,500,000; county debt, $29,500. Rate of taxation, 24 mills. Number of schools, 30; school population, 561; number of teachers employed, 25; average wages paid per month, $40; number of church organizations, 6; Presbyterian, 1; Methodist, 2; Catholic, 1; Dunkards, 1; Baptist, 1.

When it is remembered that all of the county except the 300 square miles of timberland is credited as agricultural and a comparatively small area actually occupied, 1,408,000 acres of land available for agriculture, while an immense territory is not an unreasonable figure. Of this area, 1,223,000 acres are unoccupied government lands, and 85,000 acres are owned by the State. The soil is a rich sandy loam. Price of land ranges from $1.25 to $10 per acre. Average price ($1.25 for government land) $2 per acre. The leading cereal crops of Baca county are wheat and oats, but all the cereals, sorghum, broom-corn, milo maize, Kaffir corn, rice, cane, beans, potatoes, hay, etc., are successfully raised.

The live stock business of Baca county, including the wool and dairying interests, is nearly equal in importance to that of the field products, as shown by the following figures: cattle, 20,000; dairy cows, 1,000; horses, 2,000; mules, 2,000; asses, 50; sheep, 15,000; swine, 1,000. Freedom from disease, cheap feed, wide range, mild climate and abundant water are the chief advantages for raising fine stock in the county. The sheep grown for wool are principally the Merino, with a mixture of the Shropshire and Southdown. Estimated amount of butter manufactured for 1891–92, 100,000 lbs.; value, $15,000; amount of cheese made, 10,000; value, $500. In the hills of the southern portion considerable copper is mined and some veins of gold and silver are known to exist, but in this direction there has been no development of consequence. A large amount of timber is cut and hewn annually, for railroads, and there are ten quarries of sandstone and limestone with little development. There are also gypsum and

lime deposits in the county mined for home consumption. Low taxes, plenty of good, cheap land, the capabilities of soil and the opportunities offered for livelihood in agriculture, in live stock and subsidiary industries are the general inducements offered to the home seeker in Baca county.

Bent.

Bent is the middle county of the great Arkansas valley, so fertile of soil, so richly productive and so rapidly filling up with agricultural settlements that its fame is spreading abroad as the Nile of America. Such fame, though deserved without qualification, is all the more remarkable when it is remembered that the country has, within the past ten years, been changed from a wilderness to a land of smiling verdure, animated by an enterprising, thrifty people, who have laid out beautiful farms and orchards, built comfortable country homes, erected towns and villages, and started the wheels of industry moving throughout this splendid valley. In this wonderful transformation, Bent County is the leader, inasmuch as it is the original county that formed south-eastern Colorado, and from it the surrounding counties have been taken within the past four years. The nucleus of agricultural settlements, however, had been formed thoughout the valley before the new county organizations occurred in 1889, and the story of Bent County is the story also of Otero and Prowers, which adjoin it on the west and east. Bent County has an area of 1,511 square miles. It receives its name from Col. William Bent, an early Western pioneer. Beyond the confines of the valley it is a level stretch of prairie. There are fine bodies of timber along the Arkansas and Purgatoire rivers, and in the hills in the south-west, where there are forests of cedar. The soil throughout the county is a rich, sandy loam, highly productive of all cereals, root crops, fruit, and the grasses and clovers. It can be truly said, that wherever water is obtainable for irrigation, there is nothing cultivable in the temperate zone that cannot be grown here, and it is in the Arkansas valley that all crops reach their highest perfection, with high average yields, bringing large profits to the producers. In the early years, stock-raising was almost the exclusive industry, and Bent County was the greatest cattle range in the West. It is still an important interest, and the population divide their attention between the farm, and the cattte range. Assessed valuation in 1892, $1,267,-219; real valuation, $3,500,000.

The county is well provided with schools and churches, and in the towns are numerous establishments for such productive industries as become necessary in a growing agricultural settlement. The total number of acres available for agriculture are estimated at 700,-000; available for grazing, only 26,700, all agricultural lands being available for grazing when not occupied by farms. By the recent construction of additional irrigation canals, about 100,000 acres have been made accessible by water, and these irrigated lands are being

rapidly settled for actual cultivation. Of the entire agricultural area, there are by estimate 400,000 acres of unoccupied Government lands that invite settlement at the nominal price of $1.25 per acre. There are also about 10,000 acres of unsold State lands, located within the irrigation system, for sale or lease at very moderate prices.

Live-stock statistics are obtainable only by estimate: Cattle, 50,000 head; sheep, 20,000; horses, 3,000. Owing to the increase of corn culture throughout the valley, attention has been turned to the raising of hogs in a very extensive way, and these animals will soon be numbered by the thousands as against the hundreds a year or two ago. As the greater part of settlement clings to the Arkansas valley, the Atchison, Topeka and Santa Fé railway, which follows the course of the stream, affords ample facilities to the settlers for the distribution of their produce. In addition to its splendid resource for agriculture and the live-stock industry, Bent county possesses a great deal of undeveloped material which will find its uses in the course of time.

Boulder.

Boulder is one of the oldest and wealthiest counties in the State, possessing great resources of agriculture, mining and manufacture. It adjoins Arapahoe county on the north-west, and the City of Boulder, the county seat, is 29 miles distant from Denver. Population of county 16,000; area, 1,133 square miles; elevation 5,000 to 14,300 feet. The county is about equally divided between mountains and plains. The mountains and foot-hills are rich in the precious and base metals, in stone and the minerals of commercial value. The plains comprise valleys and table lands of great beauty and fertility, covered in large part with farms and orchards and vineyards, while a large part of the area comprise coal mines and areas of valuable clays, lime and other valuable deposits. The valleys are amply watered by mountain streams, while the finest mineral springs abound in the foot-hills, establishing the county as one of the best sanitariums of Colorado. The towns and cities of Boulder county are: Boulder, population, 5,000; Longmont, 2,000; Louisville, 800; Lafayette, 1,000; Ward, 500; Gold Hill, 300; Sunshine ,400; Caribou, 200; Lyons, 700; Noland, 300; Marshall, 200; Copper Rock, 300. The principal towns are the city of Boulder and Longmont, both situated in the agricultural districts and near by the mining regions, convenient to both as a market and the chief centers of industry and trade. Boulder nestles close by the foot-hills, a beautiful, thriving city, built principally of brick and stone, delightfully shaded with luxurious trees, amply supplied with pure water from the mountain streams, well equipped with hotels and stores and shops, with churches and schools, and among the latter the State University of Colorado, an institution that will be for all time one of the greatest establishments of learning in the West. Boulder is a growing city, with the signs of thrift in all of its business aspects. Longmont is also a thriving little city, with similar advantages of commerce and manufacture, and

delightful surroundings, standing in the shadow of Long's Peak, one of the superb beauties of the Rocky Mountains, and in close proximity to some of the delightful parks and other mountain resorts. Assessed valuation, $4,970,907; real valuation, $13,000,000; rate of taxation, county, 3½ mills.

Agriculture—Total acres of land available for agriculture, 120,000; acres available for pasture, 82,000; total acres under ditch, 115,000; total acres cultivated under ditch, 100,000; total acres unoccupied available land under ditch with available water, 15,000; total acres unoccupied government land available for agriculture, estimated 3,000; average price per acre (deeded land) $10.00. The soil is a rich sandy loam. Leading products of the county, wheat, gold and silver. The most successful agricultural products: Wheat, corn, rye, oats, potatoes, alfalfa, timothy, red top, beets, celery, beans, buckwheat, melons, onions, pumpkins, cabbage. In fact all the cereals and vegetables, while fruits of both the large and small varieties become a leading crop. Experiments with tobacco have proved successful.

Estimated average yield per acre: Wheat, bushels, 22½; oats, 30; corn, 20; barley, 28; rye, 20; buckwheat, 30; alfalfa, tons, 3½; clover, tons, 4½; native grasses, 1¾; millet, 3; sorghum, gallons per acre, 125; potatoes, bushels, 175.

The average cost of water per acre per season, when purchased, is $1.25. The average cost of farm labor per month, is $25 and board. Herds of cattle and horses are kept in the mountain parks, and stock raising is a profitable industry. But a large proportion of the total number belong to the farms, and in raising for slaughter and for dairy products, the farmer thus adds materially to the profits upon his farm products.

The county possesses all the advantages for raising fine and fancy stock of all kinds.

Two creameries, one in Boulder and the other in Longmont, produce annually about 300,000 pounds of butter, and the value of cheese manufactured is estimated at $15,000. In the abundance of alfalfa and other honey-making plants produced in Boulder county, bee-culture has become an important industry, and a number of professional bee-keepers devote themselves to this calling. There are about 5,000 stands of bees in the county, producing annually from 50,000 to 70,000 pounds of honey.

Though fruit growing is a profitable industry in Boulder county, it is not extensively followed, and there is room and opportunity for great increase in this field of production. While fruits of all varieties grow to fine perfection in all irrigated lands of the county, only about 500 acres are in orchards. Apples form the staple crop. Peaches grow, but not successfully as a crop, and it is an acknowledged fact, that the peach has its home and its true cultivation in the fruit-growing section of Western Colorado. Other fruits that are successful in Boulder county are plums, pears, apricots, prunes, grapes, strawberries and all other berries and small fruits of the zone.

As a mining county, Boulder has, since the first discoveries of native gold in 1859, developed immense fortune in mineral treasure, and within her many seams and fissures yet unexplored, are greater fortunes still for generations to come. It is estimated that there are about 300 developed mines in the county, and 500 prospects yet undeveloped, and many of them known to be properties of great promise. The general character of the formation shows gold and silver (native), tellurides of gold and silver, pyrites of copper and iron, silver ore containing all the sulphurates of silver, galena and zinc blende. The leading products in value are silver and gold. Numerous new discoveries, by development, have largely increased the output of the mines during the past two years.

The total product of the mines in gold, silver, copper and lead for the year 1892 is estimated at $1,300,000, a large increase over that of previous years, due mainly to the development of new properties.

In connection with the mines there are about 35 stamp mills, employing 150 men. Average wages of mines, $2.50 per day. Coal veins are large and numerous, and there are 23 mines of lignite coal under steady development in the south-east part of the county. Average price per ton at mine, $1.75; to consumer, $4; average cost for mining, per ton, 75 cents; average wages of miners, $3 per day. Bodies of fine building and paving stone of various colors are so large and so numerous in Boulder county that there is no possibility of computing the extent or the amount. Stone quarrying may be carried on there without limit for centuries. There are probably forty quarries in operation around Lyons and Noland, towns established because of the stone industry, besides a number of lesser magnitude around Boulder. Boulder county has every advantage of attractions to the health and pleasure seeker. The most noted mineral waters of the county are those of the Boulder springs, well known to the medical profession, and sold throughout this country and Europe. The analysis of these waters as officially made, show these constituents:

Carbonate of soda	.984	Carbonate of magnesia	6.020
Carbonate of lime	7.480	Carbonate of iron	.081
Chlor. of sodium	30.217	Chlor. of Potas	1.100
Sulph. of soda	3.840	Silica	.102

To the pint of mineral water, 49.824 grains; carbonic acid gas, 39 cubic inches.

This analysis shows these waters to be a complicated medical prescription, beneficial, as proven by their extensive use in cases of dyspepsia, general debility, liver and kidney complaints, and in fact for all the ordinary complaints of a disorganized system or broken constitution.

The mountain resorts are of easy access by railroad or carriage, and in addition to well-equipped hotels there are beautiful lakes for rowing and fishing, crystal streams abounding in mountain trout, and game in plenty in the denser forests.

Chaffee.

Chaffee is a county of great resource and industrial possibilities. It is centrally located in the mining regions, comprising mountains rich in the precious metals, iron for manufacture, marble, stone and granite in masses immeasurable; valleys, with ample streams; table lands and mesas, with fertile soil for agriculture and for grazing. It is one of the upper Arkansas valley counties. The Arkansas river with numerous small tributaries, courses nearly centrally through it affording ample water for all purposes. The county is traversed by the Denver and Rio Grande, the Colorado Midland and the Denver, Leadville and Gunnison railways, with a trackage of 162 miles, afford, ing transportation from all the centers of industry and trade. Chaffee county was formerly a part of Lake, and was organized in 1879. It contains 1,500 square miles. Elevation in valley, 7,500 feet; mountain peaks, 10,000 to 14,480 feet. Total population of county, 9,000.

Assessed valuation of county, $2,834,741; real valuation, $5,500,000; county debt, $224,000; rate of taxation (State and county), 29 mills. Number of schools, 34; school population, 1,702; value of school property, $60,000; number of teachers employed, 44; average wages paid teachers, $70. Church organizations: Catholic, 3; Methodist-Episcopal, 2; Presbyterian, 2; Congregational, 2; Episcopal, 2; Christian, 2; Baptist, 1. Total acres of land available for agriculture, 239,360; total acres available for pasture, 350,000; total acres under ditch, 20,000; total acres cultivated, under ditch, 14,000; total acres unoccupied available land, under ditch, with available water, 6,000; total acres unoccupied Government land available for agriculture, 20,000; total acres unsold State lands available for agriculture, 5,000; average price per acre, Government land, $1.25; State, $10. Character of soil, rich, sandy loam. Leading products of county, wheat, oats, barley, rye, potatoes, cabbage, turnips, carrots, parsnips, timothy, clover, alfalfa and native grasses. Estimated average yield per acre: Wheat, bushels, 22; oats, bushels, 42; barley, bushels, 35; rye, bushels, 30; alfalfa, tons, 4; clover, tons, 2; timothy, tons, 1½.

There is no marked advancements in agriculture, as the county is devoted mainly to other industries. Increase in population since organization, about 7,900. Increase valuation of farm lands, $160,727; increase valuation of town and city property, $612,416. Low price of lands and good price for products, are the leading inducements for agricultural settlement.

The mining industry of Chaffee county, is of growing importance. The principal products are gold, silver, iron, copper and lead. Number of developed mines, 50; estimated output in dollars for all mineral output, 1892, $235,383; stamp mills, 4; concentration and reduction works, 4; number of men employed in concentration and reduction works, 100; average wages paid per day, $3.00. Large bodies of the finest iron ores for manufacturing purposes have been discovered, and one group of opening in the Calumet mine has been worked for years, producing about 10,000 tons per year, for use in the iron and

steel works at Pueblo. Numerous other properties have been discovered and only awaiting development. Number of men employed in iron mines, 150; wages, $3 per day.

Quaries—Limestone, 3; granite, 1, near Buena Vista; marble, 1, near Calumet; marble, 1, near Garfield; men employed, 75; average wages, $3 per day. Markets for stone, Leadville, Pueblo, Denver and points in Kansas. The marbles discovered are of all colors and in large bodies. Among the precious stones are rubies, garnets and agates, with petrifactions in small quantities. Deposits in large quantities of mineral paint, slate, mica, kaolin, asbestos, fire clay, silica, gypsum and lime are found, but as yet undeveloped.

The sanitary advantages of Chaffee county are exceedingly fine. It is free from the extremes of heat and cold, with almost perpetual sunshine. Mineral springs are numerous in the county, and those which have been provided with attractive and comfortable accommodations as health resorts are the Buena Vista hot and cold springs, near Buena Vista; Poncha hot and cold springs, near Salida; Hortense hot and cold springs, near Buena Vista; Haywood hot and cold springs, near Buena Vista; Wellsville hot and cold springs, near Salida. All these springs contain mineral properties and are regarded as highly effective in the treatment of diseases such as ordinarily yield to mineral water remedies. The analysis of these waters are in many respects similar to the Hot Springs in Arkansas, as shown by general analysis.

The fine climate, the numerous thermal springs, the religious and educational advantages, and the many rich but undeveloped resources offer great inducements for the home-seeker and the capitalist to locate a home or engage in the development of the material wealth of Chaffee county.

Cheyenne.

Cheyenne county occupies a central position among the tier of eastern counties, adjoining the State of Kansas, and forming a part of the non-irrigated region. It has an area of 1,800 square miles, and is 30 miles wide by 60 miles long. It is exclusively an agricultural and stock-raising county, and contains 575,109 acres of unoccupied Government land available for agriculture. The entire county, except the small portions now under cultivation, is available for pasture. In other words, Cheyenne county comprises a vast range for cattle and sheep, and for live-stock of all descriptions.

The county was organized as recently as 1889, being taken from the eastern end of El Paso, and farming there is quite a new enterprise, with little development, but with results sufficiently successful to improve the possibility of agriculture there without irrigation, this being a disputed point that has been settled in favor of the farmers in all the counties of eastern Colorado.

Thus far, corn is the leading cereal crop; wheat and oats yield a fair average; all the cereals can be successfully grown; all the hays

are made with profit, while broom-corn is an exceptionally successful crop, giving promise of becoming one of the most remunerative products of the farm.

In the live-stock industry, while the greater value may attach to cattle at present, the sheep and wool feature gives promise of an important future.

Total population of county, 600; elevation, 4,000 feet; general topography, a rolling prairie. Big Sandy, Rush Creek and Smoky Creek are the streams, with little water, and none for irrigation. The county is crossed from east to west by the Union Pacific railway. Cheyenne Wells and Kit Carson are the principal towns, the former being the county seat.

Assessed valuation of county	$ 1.393,023
Real valuation	5,572,092
County debt	26,200

Rate of taxation 20 mills, (including State)

The county has one church, (Methodist), and another in course of building.

The soil of Cheyenne county is a light sandy loam, and the crops best adapted are broom corn, sorghum, sugar cane, melons, wheat, corn, barley, oats, potatoes, millet, alfalfa, rye, beets and the grasses. Price of lands, $3 to $4 ($1.25 for government lands under the various entries.)

The prevailing breeds of sheep most successful in wool growing are the Merino and Shropshire. Estimated annual clip of wool, 59,000 pounds; average price, 16 cents per pound.

The climate of Cheyenne county is pronounced by leading physicians to be excellent for health seekers, and the water is 98 per cent. pure. Such are the industrial advantages that the present settlers have no hesitation in inviting good, industrious, persevering farmers to join them in the work of developing the country, and to such men they extend the offer of cheap farms and cheap homes, easily obtainable, and invite them with a welcome and an assurance of their success.

Clear Creek.

Clear Creek county has been a steady, producer of gold and silver from the first years of settlement in Colorado to the present. It is one of the oldest, wealthiest and most substantial counties in the State. It is a mining county to the exclusion almost of all other industries. Its surface is almost entirely mountains and rocks. In the valleys there are about 1,000 acres of agricultural lands. In the history of mining development Clear Creek and Gilpin counties are twins, they are the smallest counties in the State, and have been constantly rich, reliable producers of wealth, silver predominating in the former and gold in the latter. Clear Creek county is one of the central mountain counties, lying about 75 miles nearly due west of Denver. It has a population of 7,189. Georgetown, situated in the heart of the mining region is the county seat; other towns are Silver Plume and

Idaho Springs, the latter being a celebrated watering place where the thermal springs have a reputation for their cure of rheumatism, skin, kidney and stomach diseases, being also beneficial to asthmetics and consumptives. The population is principally composed of miners, and is distinctively cosmopolitan. The assessed valuation of mining property and gross output is $296,622, and the total valuation of the county is $1,907,903. But this falls short of true values. The average annual output of gold and silver alone is $2,400,000, and the total real valuation is properly estimated at $4,000,000. The county debt is $50,000, and the tax rate 3½ per cent. Gold, silver, copper, lead, zinc and iron are mined. Among the mines are some producers well known throughout the United States and in the mining world. About 175 mines are in operation. The general character of the mineral formation is granite and gneissic rock.

Clear Creek is especially noted for the stability of its mines. The first discoveries were made in 1859, and from that year to the present —a period of thirty-one years—the development has been a work of steady progress. Many of these first discoveries are still among the largest producers, and present operations involve deep mining, with most extensive explorations, and yet there is no sign of exhaustion. Many of the properties, as they grow in age, also increase in the production of the precious metals. The county has an area of only 389 square miles, and although within this small territory thousands of claims have been taken, there are yet undiscovered bodies of mineral, and work for generations to come in the development of mines that have as yet barely been opened. Of smelters, stamp-mills, concentrators, reduction works, etc., there are twenty-five establishments. Clear Creek county is high up in the mountains, its western boundary resting upon the back-bone of the Continental Range, of which Gray's Peak forms a part. The south fork of Clear Creek, having its source in the perpetual snow of the range, courses its way through the center of the county forming the grandeurs of Clear Creek Cañon on its way through the mountains to the plains. The Colorado Central division of the Union Pacific, and the Colorado Central and Georgetown, Breckenridge and Leadville railways traverse the county. The several towns named have eighteen schools and thirteen churches.

In addition to its unlimited treasure, Clear Creek county possesses wealth in its delicious summer climate, the sublimity of its scenery and the numerous places of health and pleasure resort. Clear Creek Cañon, the "loop," near Georgetown, are marvels of railway engineering, and present to view some of the most enchanting grandeurs of mountain scenery, while far above, and reaching into the clouds amid the peaks that are perpetually clad in snow, Crystal lake and Green lake are noted among the most delightful summer resorts on the continent of America.

Conejos.

A large portion of Conejos county lies within the San Luis Valley, and it is therefore an agricultural and live stock section for the most part, while the people are also sustained by mining and other industries. The population of the county is about 7,000, including a large number of Mexicans who were the earlier settlers, devoted principally to agriculture and sheep-raising. Timber is plentiful in the hills, and the fertile valleys are watered by numerous streams. About 50,000 acres are cultivated in grain, with an average yield for wheat, 27 bushels; oats, 61; rye, 43; barley, 54.

The assessed valuation of Conejos county for 1892 was $1,795,624, or a real valuation approximating $5,000,000. This taxable wealth is distributed principally among the holders of improved lands, grazing lands, coal lands, the railroads, the live-stock interests and the improvements on town and city lots, representing several thriving towns in the county. The most important of these is the town of Alamosa, the principal market and distributing point from the Denver and Rio Grande railway, which passes through the county, and with its branches, have a trackage of seventy-four miles. Statistics of live-stock, according to assessor's returns, credits the county with 4,528 horses, 8,647 cattle and 10,320 sheep. The advantages for cattle and sheep as they exist in the natural and almost perpetual pasturage of the fertile valleys, the foot-hills and mountain sides are splendid, and these branches of industry will always be profitable.

Soil and climate are adopted to all manner of farm crops and, as the averages for leading products show, Conejos has no superior. All crops are raised by irrigation. Several hundred miles of irrigating canals have been constructed, which, besides affording water for all occupied lands, open many thousands of acres for new settlement. The mineral formations of Conejos county are principally leads and placers, the carbonate camp at Antonito being an important field of operation. However, mining has received but comparatively little development, and is not as yet one of its most important sources of wealth. Artesian wells are struck at a depth of from 55 to 100 feet in almost any part of the county on low land, and the water is cold, soft and healthful. The county possesses a delightful climate and is surrounded by splendid mountain scenery. The numerous streams are well stocked with trout, the nearby hills abound in game, thus affording attractions to the health and pleasure seeker as well as to those in quest of a location and a home in this fine agricultural section.

Costilla.

Costilla county is important for its agriculture and live-stock interests, chiefly, and occupies the south-east corner of the famous San Luis valley; noted for its wonderful fertility of soil and its extensive facilities for irrigation, this county alone having irrigating canals and ditches of a total length of 260 miles, irrigating 200,000 acres of land, the greater part of it being open to settlement. The county was

established when Colorado was organized into a Territory, and now has a population of 4,000. The principal towns are Fort Garland, 100 population; San Luis, the county seat, 500; San Pedro, 400; Costilla, 400; Mosca, 100; Garrison, 100. It has an area of 2,500 square miles, and an elevation of 7,700 feet. The streams of the county are the Trinchera, Sangre de Cristo, Ute creek, Culebra, Vallejos, San Francisco, Jaroso, Ventero and Costilla creek and the Rio Grande river along the western boundary. The soil of the county is from a sandy loam, (sub-irrigating) to a rich heavy clay. The leading product is wheat; but oats, rye, barley, corn, alfalfa, timothy, clover, potatoes, sugar beets, and all sorts of vegetables are raised.

The financial and social statistics of the county are reported as follows: Assessed valuation of county, $1,250,000; real valuation, 3,000,000; county debt, 26,000; rate of taxation, mills, 18; number of schools, 30; value of school property, $30,000; number of teachers employed, 40; average wages paid teachers, $45.

The religious organizations in the county are Presbyterian, Methodist, Catholic, Episcopalean. The total acres of land available for agriculture is estimated at 400,000; total acres available for pasture, 800,000; total acres land under ditch, 200,000; total acres land cultivated under ditch, 40,000; total acres of unoccupied available land under ditch, with available water, 20,000; total acres unoccupied Government land available for agriculture, 40,000; total number of acres of unsold State lands available for agriculture in county, 6,000.

Estimated average yield per acre: Wheat, bushels, 22; corn, 23; rye, 20; oats, 35; barley, 28. Alfalfa, tons, 4; timothy, 1¼, peas, 1 1-5; clover, 3; native grasses, 1; potatoes, 1. All kinds of vegetables are grown with large average yields.

Statistics of live stock in the county: Horses, 4,500; cattle, 12,000; dairy cows, 1,000; swine, 2,500; mules, 400; asses, 400; sheep, 18,000; goats, 1,000.

The advantages for raising blooded horses, fine and fancy cattle, sheep, hogs, poultry, etc., are mainly the splendid meadows and a pure climate.

The wool clip for 1892 was 50,000 pounds, at an average price of 16 cents per pound. The most successful sheep for wool growing is the Merino.

Operations in mining are of little consequence, though the county contains numerous veins of gold, silver, lead and copper ores, with seven developed mines. The sanitary inducements for health seekers are excellent climate, fine scenery, water of the best and pleasant accommodations. Hunting, fishing and climbing to the summit of Blanca Peak, the highest in the State, are the chief attractions for health and pleasure seekers. In addition to the mountain streams there are 150 artesian wells in the county which add to the water supply for irrigation, besides being of great value for sanitary and domestic purposes.

By the many advantages enumerated, Costilla county offers fine inducements both to the home-seeker and the capitalist, and the field is open for many enterprises not yet developed.

Custer.

Custer is one of the prosperous agricultural and mining counties of Southern Colorado. It is 24 by 36 miles in extent and nestles at the foot of the Sangre de Cresto and Greenhorn ranges of mountains. The area is partly composed of mountains containing the precious metals, its larger part comprising broad valleys for agriculture and grazing. Upon the north is Fremont county, on the south Huerfano, on the east Pueblo, and on the west Saguache county. Custer county has an elevation of 8,000 feet. Grape Creek and its tributaries flow through the county and empty their waters into the Arkansas. Custer county receives its names from Gen. Custer, killed at the Big Horn massacre. It was organized in 1875. It has a population of 3,000. Silver Cliff is the county seat. It has 23 public schools.

The total acres of agricultural land reported under assessment are 18,972 acres, of grazing land 50,448. The greater portion of the agricultural lands are under cultivation, yielding big averages per acre in the cereals, oats, rye, barley, potatoes and alfalfa being the leading product. The valuation in 1872 upon the cattle industry, which is one of the leading sources of wealth in the county, was $109,496, aggregating 10,912 head; horses, 2,905 head, valued at $84,424. The total assessed valuation of the county is $752,121, or an estimated real valuation of $2,200,000. The stock raised is not altogether bred as range stock, but considerable attention is devoted to fancy breeding. The effect of this is seen in the character of Custer county live stock and the position it has attained in the markets of the State. The prosperous condition of this industry is due to the exceedingly favorable climate, the abundance of water and the other natural advantages of the valleys of the Wet Mountain country. In addition to the mineral deposits are beds of commercial minerals and also vast quantities of variegated marble. Custer county needs only the capital and in a short time there will here be developed large industries and an impetus will be given the industries already established. There is some manufacturing in the county, but the goods made are for local use. The lack of railroad facilities has seriously retarded some portions of the section and as soon as these facilities are offered the county will develop her mines more extensively but will direct attention to other channels.

The county contains large forests and lumber is obtainable in large quantities. The annual output in sawed lumber is about 3,000,000 feet.

The mining industry is promising, but the development has not been very extensive in late years. Fine bodies of mineral are known to exist, and numerous rich discoveries have been made, giving every assurance of the future advancement of the industry. The resumption of operations in the great Bassick Mine which is contemplated for this year (1893) will give a new impetus to the industry. The total annual output of late years has been from $100,000 to $200,000. The

population of the county is estimated at 3,000. The combined resources of the county, gives great promise for the future and the people find plenty of occupation in their various callings and all the people are in a prosperous condition.

Delta.

No county in the State possesses a combination of industrial resource superior to that of Delta County. This is one of the trinity of counties forming what is commonly known as the fruit-growing country of the Western Slope, lying between Mesa and Montrose Counties, and comprising a large area of splendid lands for agriculture and grazing in the fertile valleys of the Uncompahgre, and the two forks of the Gunnison river. The first settlements were made in 1882, immediately following the removal of the Utes, and as a part of its industrial history, it is related that the first fruit trees from which has developed the wide-spread fruit-growing industry of Western Colorado, were planted in Delta County in that year. Thus in ten years, from this small beginning, 210 irrigating ditches, aggregating a total length of 600 miles, have been constructed, and 20,000 acres of land placed under cultivation for general agriculture, and 85,000 under ditch. Delta County has an area of 1,200 square miles. One-fourth of its territory lies in the valleys, and the remaining three-fourths comprises a part of the grand mesa of the Western Slope, which reaches an altitude of 10,000 feet as it approaches the higher mountains. It is in large part covered with fine timber, while it also possesses vast tracts of open table lands, having a fertile soil, highly productive of the cereals wherever water can be applied, and affording throughout the most excellent grazing lands for all species of live-stock, the hills and timber lands providing for them shelter from the rigors of winter. The valley lands possess great richness of soil, and a climate that is adapted to agriculture and the fields, the orchards and the gardens yield abundant harvests.

The county was organized in 1883, and has now a population of 4,500. The City of Delta is the county seat, with a population of 900; other towns, Hotchkiss, 100; Paonia, 100; Crawford, Eckhardt, 50. The remainder of the population is distributed for the most part among the farms, while Delta county, by reason of the extraordinary results attained, is entitled to its distinction as a fruit growing country, its greater capabilities lie in its combination of advantages for field production, stock raising, its coal mines and other reserves of natural resource. For large growth, beauty and delicious flavor the apple and the pear are the leading products of the orchard. Peaches also reach that degree of excellence which has made western Colorado famous for this fruit, while apricots, plums and cherries grow abundantly. Grapes also grow in great abundance and beauty, and many of the choice California varieties are grown with great success. Notwithstanding all the orchards are young and but comparatively few of the number planted in bearing, a sufficiency of fruit is raised

for home consumption, besides contributing a large share of the supply to the towns and mining camps in neighboring counties.

Upon the farms the soil is cultivated upon a much larger scale and with greater aggregate profit in wheat, oats, corn, barley, alfalfa, potatoes, and other crops. Wheat, oats, alfalfa and potatoes are the products of greatest volume and value, the average yield per acre in all these crops being surprisingly large, and far exceeding the average for the State, a fact which is characteristic of all the valley lands of the Western Slope.

The wealth of the county consists in the most part in its lands and herds. The assessed valuation is $1,250,000; estimated real valuation, $4,000,000. The county debt is $70,000. The county is settled with an intelligent, thrifty class of people and the moral tone of the community is of a high standard. For the population of 4,500 there are eight churches and 22 schools with 26 school teachers.

The lands of the county are classified as follows:

Total acres available for agriculture	215,000
Total acres available for pasture	450,000
Total acres land under ditch	85,100
Total acres cultivated under dit h	20,000
Total acres of unoccupied government land available for agriculture	75,000

As cultivation is as yet confined principally to the richer valley lands, the average yield per acre is reported at figures higher than would be justified by a general tillage of the land, the average for some entire farms in 1892, being estimated as follows:

Wheat, bushels	40
Oats, "	50
Barley, "	30
Rye, "	35
Potatoes, "	250

The abundance of fine grazing land, good water and the capabilities of soil for the production of hay and other feed, all go to show the superior advantages for raising fine stock and for the sheep and and wool industry.

Coal is abundant in the county and there are eight coal mines in operation. Average price per ton at mine, $1.50. There are numerous deposits of the commercial minerals, as yet undeveloped, and a number of lime kilns are in operation. The Denver and Rio Grande railway passes through the county from east to west, giving communication with Utah and all parts of Colorado.

With all its great advantages the county has but small development and it is in this great reserve of natural resource that the homeseeker of the future will find opportunities for livelihood and fortune.

Dolores.

Dolores is one of the important mining counties of south-western Colorado, which has been waiting for many years only for the advent of the railway to develop its great wealth in gold and silver. Within the past year the Rio Grande Southern railway has been constructed through the county north and south, tapping the richer districts

under development. The City of Rico, the county seat, being the center of this region, becomes the market, the distributing and shipping point for the mines of the county. Since the railway came, there is already the signs of renewed activity, which in future can have no possible check, except the national calamity which affects all mining sections alike, the low price of silver, and the want of favorable legislation.

Dolores was created in 1881, from the southern part of Ouray County. But long before this time, numerous rich discoveries had been made, and a number of mining camps established, among them the town of Rico, which has continued to be the leading mining camp and the mining center of the county, and has a population of 2,500. The area of the county is over 900 square miles, and its elevation is 7,000 to 14,000 feet. Its topography is principally mountainous, with a wide stretch of hilly country, and undulating plains west of the mountains to the Utah line. In this part is a large area of grazing and tillable land, but for the most part it is uninhabited, and little pretension to agriculture is made.

The total population of Dolores County is 2,700, therefore, nearly all the mining population centers in the town of Rico. The mountains are heavily timbered, and the two principal streams are the Dolores and West Dolores rivers.

Assessed valuation	$ 900,000
County debt	90,000

Rate of taxation, State, county and school, 30 mills. The county has two school districts, and a school population of 200. Number of teachers employed, 4; average wages paid, $85.

There are only two churches, one Congregational and one Catholic, both at Rico. Since the date of organization town and city properties have increased $750,000 in valuation. In cousidering Dolores as a mining county it is important that while the mountains under development are an extension of the rich gold and silver formations of Ouray county to the north, they also adjoin San Juan county, and were originally a part of the great silvery San Juan region. The general character of the ores mined are gold, silver, lead, copper and iron. There are twenty-five developed mines, a number of them yielding large profits to the operators. The greater number of the properties are as yet undeveloped, and are known to possess mineral with every indication of big fortune.

The general character of the mineral formation is lime, porphyry and some quartzite. The veins are fissure and contact. The output of the Rico mines for 1889, was $1,000,000. The following figures for 1892 will show the ratio of increase since that time, the greater part being for 1892:

ESTIMATED OUTPUT IN DOLLARS FOR 1892.

Gold	$ 250,000
Silver	2,250,000
Lead	250,000
Copper	4,000
Total	$2.754,000

Coal is found in the sandstone formation and the iron that abounds is only used for flux in smelting. There are four coal mines seven miles north of Rico. Output for 1892, 5,000 tons. Average price per ton, $7; average cost for mining per ton, $2; average price paid coal miners per day, $3.50.

As mining is an interest greater than all others combined, the future opportunities of fortune will be mainly in the opening up of new discoveries or the many partially developed mines that are only awaiting the coming of capital and labor.

Douglas.

This county is classed as almost wholly agricultural, with probably one-fourth its area covered with useful timber. It adjoins Arapahoe county on the north and El Paso on the south, having a close connection with the chief centers of population. The western half of this county comprises an area of many peculiar features, embracing, as it does, foot-hills and spurs of the Rockies, bluffs, ridges, mesas, parks and valleys, belonging, in part, to the northern incline of the Divide, with its many singular configurations. The valleys, hill-sides and table lands are cultivable and highly productive, while a large proportion of high lands is covered with timber. While portions of the county are supplied with water from two large irrigating canals, crops are successfully raised every year without irrigation.

It is one of the pioneer counties, being organized in 1861, and named after the Hon. Stephen A. Douglas. It has an area of 860 square miles, with a population of 3,010. Castle Rock is the county seat, and the principal towns are Castle Rock, Sedalia, Parker and Greenland. Highest elevation, 6,200 feet. The natural streams of the county are East and West Plum Creek, Cherry Creek, with east and west branches, Antelope, Garber, Horse, Jackson and Spring Creeks.

Assessed valuation of county	$2,000,000 00
Real valuation	4,000,000 00
County debt	18,000 00
Rate of taxation	19 mills.
Number of schools	28
School population	742
Value of school property	$ 20,000 00
Number of teachers employed	33
Average wages paid teachers	$ 48 50

There are five church organizations in the county: Methodist, 3; Episcopal, 1; Catholic, 1. The soil is a sandy loam, exceedingly rich in the valleys. Total acres of land available for agriculture, 300,000; total acres available for pasture, 275,000. The leading products that are successfully grown from the soil of Douglas county are potatoes, corn, wheat, oats, rye, barley, millet, buckwheat, sorghum, Kaffer corn, sugar beets, beans and nearly all kinds of garden truck.

For irrigation the Highline ditch and the Arapahoe ditch are the principal canals, but there are about 150 smaller private ditches in the county. The Castlewood reservoir, recently completed, is located in the bed of Cherry creek in the eastern end of the county. This is a

model and a wonder of reservoir construction. Its capacity 250,000,000 cubic feet or about 2,000,000,000 U. S. gallons and will furnish water for hundreds of thousands of acres as yet unoccupied in portions of Douglas and Arapahoe counties. Four railroads pass through Douglas county: The Denver and Rio Grande, Santa Fé, South Park and the Denver, Texas and Fort Worth, giving abundant transportation facilities from the farms to the markets. Castle Rock is the nearest market place with reference to railroad transportation.

Estimated number of cattle	11,493
Dairy cows	1,598
Horses	1,7
Hogs	523

Good pasturage, good water in abundance, a great variety of rich forage, nearness to the markets of Denver and Colorado Springs, are among the chief advantages in raising blooded horses and a number of persons have recently engaged in the business. The same advantages encourage the raising of Jersey and Holstein cattle for dairy purposes, and sheep and swine, principally for home consumption, while poultry of all kinds can be profitably raised. The dairy business is becoming a leading industry of the county and offers great opportunity for the future. There are three cheese factories in the county and one creamery, located at Castle Rock. Product of butter in 1892, 122,620 pounds; market price, 25 to 35 cents. Cheese manufactured, 355,500 pounds.

Very little fruit has been grown. A large number of orchards have recently been planted. Older orchards bear fairly well. Of all the products of field or garden, the greater part is consumed in the county, owing to the fact that a large proportion of the population is engaged in other industries. Coal is found in the county, but not extensively mined. There are four stone quarries near Castle Rock, shipping great quantities of lava rock; one near Larkspur of red sandstone. About fifty men are employed; wages, $2.25 per day.

Precious and ornamental stones, such as topaz, agate, crystals, jasper, agatized, petrified, crystalized and opal woods are found in considerable quantities.

Petroleum is known to exist, and development work is in progress. Deposits of fire-clay are found at Castle Rock, and lime at Sedalia.

The county possesses, as a valuable health resort, the Excelsior mineral springs, in the south-east part, on Antelope creek. The following result of analysis shows the water to be very good:

	Grains to Gal.
Common salt	1.4
Calcium carbonate	7.5
Iron and alumina sulph	1.3
Magnesium, sulph	1.5
Sodium carbonate	.8
	12.5

The county, as a whole, is a natural sanitarium, with the best of water and pure mountain air.

Eagle.

Eagle is one of the central mountain counties, distinctively a mining section, in its topography wholly mountainous, but comprising numerous fertile valleys along the Eagle and Grand rivers and their tributaries, where good crops of cereals, potatoes and hay are raised, and find ready sale at good prices in the local markets. But the chief source of revenue maintaining the population is the mines, producing gold, silver and lead.

The county was organized in 1883 and now has a population of 7,200.

Its principal towns are Red Cliff, Gilman, Eagle, Minturn, Gypsum, Wolcott and Mitchell.

Eagle county has an area of 1,800 square miles. Its elevation is 5,600 to 14,500 feet. The mountains are densely timbered. Assessed valuation, $1,293,280; real valuation, estimated, $5,000,000; county debt, 119,000; rate of taxation, 35 mills; number of schools, 20; value of school property, $10,500; number of teachers employed, 20; average wages paid teachers, $75. Church organizations, eight; Congregational, three; Lutheran, two; Catholic, one; Methodist, two.

Total acres of land available for agriculture	45,000
Total acres land for pasture	350,000
Total acres land under ditch	17,000
Total acres land cultivated under ditch	30,000
Total acre unoccupied government land available for agriculture	20,000

The first settlement was made in the county by miners in 1879, and the first efforts at farming in 1882, principally for hay and potatoes. In favored locations the best lands are held at $40 per acre, and the increase in town properties is not so great as in the agricultural districts. The leading inducements for agricultural settlement are easy farming and good markets. The Denver and Rio Grande and the Colorado Midland railways pass through the county, with a trackage of ninety miles, affording easy tranportation for the mines and the farms. Assessed valuation of railroads, $8,624 per mile. Experiments thus far prove that fruits can be raised in the valleys.

Mining for the precious metals is the main source of wealth in Eagle County, and the result of the past few years proves its permanency, with a rich promise for the future. The mining districts where operations are in progress are: Battle Mountain, Nolan, Taylor Hill, Eagle River, Edgeley.

There are twenty-eight developed mines in the county, and the leading products are gold, silver and lead.

The future mining in Eagle County is very promising. It adjoins the great silver and lead producing counties of Lake and Pitkin, on the north and the same range of mountains from which the enormous wealth of Leadville and Aspen has been developed, cross Eagle County from north to south. While in addition to the developed mines, other rich discoveries, as yet undeveloped, are numerous, there is still a large field for new and still richer discovery.

In addition to the mining industry, there is a great abundance of building stone in the mountains. Three quarries are open, and 120 men employed. Average wages, $3 per day. Red sandstone, the favorite building material, is the leading character, and the markets are Denver, Aspen, Glenwood and other mountain points. There are no distinctive health resorts, but the summer climate in the mountains is delightful, and quite a number of Eastern people spend a part of the summer in the mountain towns to enjoy the cool nights, the magnficent scenery and the fine sport in hunting and fishing.

Elbert.

The County of Elbert comprises a part of the State known as the Divide country, and is especially valuable as a rich stock raising section. Its altitude is such that rains are more frequent than is the case among the eastern Colorado counties, a fact that is largely due to its peculiar physical features. The Divide seems to attract the storms which rise in the mountains and pass thence along the high lands through Elbert to the plains of eastern Colorado. The county has 1,854 square miles, and the average elevation is 6,000 feet. In the western part of the county there are large quantities of pine timber. Elbert county's population is 1,854, and the people are prosperous. In no other stock raising section are the inhabitants in better condition. There is considerable farming, and where attention is paid to the grasses and the early grain crops success is attained in farming. The range has been taken up to such an extent that the rich land is fenced in small holdings, and where stock raising is pursued farming is conducted as a necessary adjunct. In 1892 the valuation was $1,989,909; estimated real valuation, $4,000,000. There is no county debt. This county was taken from Douglas county in 1874, and named in honor of Ex-Governor Samuel H. Elbert. Elizabeth and Elbert are the important towns. Kiowa is the county seat, on Kiowa Creek, about the center of the county. There are 18 public schools in the county, with a school census of 600 and a property valuation of $12,000. Throughout the county there is considerable agricultural land and corn and hay are raised abundantly in the valleys. Alfalfa will grow in the high lands and espersette where tried in the more arid section is found to be peculiarly adapted to the altitude and physical conditions. There are a few private ditches in the county under which there are about 800 acres in a high state of cultivation. There are 500,000 acres of rich land used now for grazing purposes. Upon this people are locating rapidly and soon the prospects are that stock raising under conditions which contemplate farming to some degree will take the place of the open range. For sheep raising Elbert county is especially adapted. There is no alkali to injure the wool and the thoroughbred grades of Merino and other blooded sheep grow here to perfection. The wool crop of 1892 approximated 500,000 pounds from 75,000 head of sheep. Next in importance is the cattle industry. There are this year in the county

20,000 head. The dairy interests are growing, and the prospects are that shortly from the improved breeds of cattle Elbert will support a flourishing creamery trade. The past year about 6,000 acres of grain were planted, barley being a profitable crop. Corn was also extensively raised. Elbert county is healthful; there is an abundance of good water, shade, and in general character the country is a highly desirable place for summer residence. In the western end of the county there are large deposits of building stone, mostly lava, from which the material is quarried for local use. There are 83 miles of railroad in the county, operated by the Denver, Texas and Fort Worth and the Kansas Division of the Union Pacific.

El Paso.

No other county in the State has greater wealth in natural attractions than El Paso. Were it not noted moreover, for its great reserve of material resource, its fame as the county of Pike's Peak, Manitou and Colorado Springs would be sufficient to establish its important relation to the State and the rest of the world. El Paso is Spanish for "The Pass," so called from Ute Pass, which in early days was the gate-way to the West. It was organized as a county when Colorado was organized as a Territory. It occupies nearly a central position in the State, bounded on the north by Douglas and Elbert counties, on the east by Elbert and Lincoln, on the south by Pueblo and Fremont and on the west by Park county. The county seat is Colorado Sgrings. Its area is 2,646 square miles. Its elevation averages 5,000 feet on the plains and 14,250 in the mountains, the maximum being the summit of Pike's Peak. Pine forests cover the mountains. The Fountain qui Bouille and the Monument, small creeks are the principal streams. The soil is generally a sandy loam, highly productive in the northern portion and along the Fountain, of potatoes, corn, wheat, oats, and all the rest of the cereals, and also all the clovers and grasses. The county has a population of 25,198. The principal towns and cities are Colorado Springs, 15,000; Colorado City, 3,000; Manitou, 1,500; Monument, 300; Fontaine, 300. The people have come from every part of the United States and all over the world. They embrace the industrial classes and people of wealth, retired from business who have come to Colorado for health. The general employment of the people is farming and grazing, though the development of its natural resources forms a large part of its general industries, such as quarrying and coal mining, while the dairy forms an important part of the farm. The county forms a community of excellent social condition. It has ninety-two public schools, one college, fifty-six churches and seventeen newspapers.

The total acres of land available for agriculture is estimated at 200,000. A much larger area is devoted to pasturage on the ranges for sheep and cattle. There are about 30,000 acres of agricultural land now under ditch. There is great abundance of stone and coal in the county. The veins of coal are from six to nine feet thick and

extend over a vast area. Red and white sandstone of fine quality, crops out along the base of the mountains. Six quarries are now in operation. The stone is of an excellent quality, and the supply is inexhaustible. Large quantities are shipped east. Oil indications are very promising, extending along the width of the county from north to south. The dairy is an important institution in El Paso. Value of butter made in 1892, was $50,000; cheese manufactured, 90,000 pounds. The sheep industry is a promising feature. Annual clip of wool estimated at 400,000 pounds, averaging 16 cents per pound. Six great railway lines traverse the county, all passing through Colorado Springs. The agricultural yields of fair average. In the northern portion, which is upon the "Divide," crops are raised with great success without irrigation. The yield of potatoes there is enormous, 6,000 to 12,000 pounds to the acre being the usual average. At Colorado Springs and Colorado City there are numerous manufactories from native materials, among them a glass manufactory, a plaster of paris and cement factory and a paint factory. At Manitou there is an extensive bottle manufactory, and a great lime kiln. Other lesser establishments are too numerous to mention. Colorado City, which by reason of its large growth in manufactures, has in late years grown from a small village into the proportions of a city and is the manufacturing center for the great wealth of raw material surrounding. The manufacture of bottles and other glassware has become a large industry; a foundry for manufacture in iron, brass and copper, is among the larger establishments; mineral paint works, fire-clay and pottery and numerous other manufactures are important features in the list of industries.

Some of the most extensive deposits of red and white sandstone, and the largest quarries being at this time operated, are at the edge of town. There are in the immediate vicinity inexhaustible deposits of fire, potter's and terra cotta clay; a superior brick clay, hydraulic cement, gypsum, limestone, and the most extensive mines of cryolite which are known to exist in America. There are fluxes of all kinds, and railway facilities to transport the ores from the mines, and the manufactured products to all points. Colorado City, the "El Paso" of 1850, the neglected, despised hamlet of the '70's, has stepped to the fore in the manufacturing ranks.

The assessed valuation of El Paso county is $11,837,271, which represents approximately an actual valuation of $33,000,000.

El Paso county is pre-eminently a refuge for those afflicted with throat and lung diseases. The climate and the purity of the air are unexcelled. The natural scenery is sublime. Lofty mountains, grand cañons, leaping cascades, beautiful and picturesque rock formations-pensive valleys and quiet dells make it the Switzerland of America. The Iron and Soda Springs of Manitou are world-renowned, and and give health and vigor to thousands who come from all parts of the world to drink of their waters. In its advantages of soil for the farmer, its wide range of grazing land for the stockman, in

its wealth of stone and gypsum and lime, in its boundless resource of coal and the commercial minerals for the manufacturer, in its varied employments for the industrial classes; in its healthful climate, its healing mineral waters and pure, invigorating atmosphere for the sick and the well, in all these are found the most persuasive inducements that could be offered a people to make El Paso county an agreeable, profitable place of residence.

Colorado Springs, the center of this region of wonder and charm, enjoys a large share of the advantages which attach to modern city life. It is supplied with water of absolute purity, piped from the sides of Pike's Peak. It has a complete and perfect sewerage system. It is lighted by electricity. It has about twenty-five miles of finely equipped electric railway, with branches to Manitou, Broadmoor and the Cheyenne Cañons, and to Austin Bluff. It is provided with ample hotel accommodations for the thousands who annually visit it. It has numerous liveries, giving excellent service with moderate charges.

In addition to these great attractions as a tourist and residence city, Colorado Springs has already begun to play an important part in the present rapid development of the Rocky Mountain region. Situated at the entrance to Ute Pass, one of the great natural highways into the mountains, it must of necessity become an important commercial center, and share with other cities the tribute of the mountains and plains. Six lines of railway enter in Colorado Springs.

Five miles from Colorado Springs, and connected by two lines of steam railway, by electric railway, by roads and boulevards, is the village of Manitou Springs, which is called the "Saratoga of the West," by reason of its great popularity, situated in a cleft of the mountains at the entrance to Ute Pass. Manitou is essentially a summer watering place, the majority of its hotels being open during the summer season only. Three cañons converge at Manitou—Ruxton and Williams Cañons and Ute Pass—all of which are striking scenic features. Through the first of these runs one of the principal trails to the summit of the Peak, as does also the Cog Railway. The Iron and Soda Springs at Manitou are justly famous, having a wide curative range. Manitou Springs so justly celebrated becomes the more famous because of the many wonders of nature by which it is surrounded. The Garden of the Gods, the Cave of the Winds, Ute Pass, Williams' Cañon, Glen Eyrie, Blair Athol and numerous other places of attraction are well-known throughout the world.

Fremont.

This is one of the great industrial counties of the State, located on the Arkansas river, its area comprising both mountains and plains, and embracing the Royal Gorge and the Grand Cañon of the Arkansas, so famous throughout the world. Petroleum, coal, stone, the precious metals, agriculture, fruit-growing, stock-raising and manu-

facture are the leading resources and industries that give employment to the people, and draw large revenue from the commercial world. Its greatest wealth lies in its oil fields, its coal fields and its live-stock interests. It is famous for the production of fine fruits. In Fremont county are the most extensive oil fields in the western country, located at the town of Florence. It is the pioneer section of this vast, prospective industry in Colorado. The yield from these wells is a sufficient supply for all Colorado, in refined and crude oil, having a large surplus, which is sold in all adjoining States and Territories, and as far east as the Missouri river.

Fremont county occupies nearly a central position in the State. About one fourth of the area is on the plains, and three-fourths in the mountains, the mountainous area being bisected by fertile valleys. The mountains are covered with timber. The Arkansas river divides the county about equally north and south and about fifteen creeks empty into the main stream. The county was organized in 1862, with Cañon City as the county seat. By the census of 1890, the population was 11,000, divided among the towns as follows: Cañon City, 4,280; Coal creek, 1,100; Florence, 720; Rockvale, 780. The county is in a most prosperous condition. Its leading industries are in the order of their importance, the production of petroleum and the refined oils, coal, fruit, cattle and other live-stock, all farm products and the great list of its material resources which become factors in its wealth are gold, silver, copper, iron, manganese, lead, zinc, nickel arsenic, cobalt, mica, gypsum, coal, petroleum, vitrifying fire brick, pottery clay, mineral paints, such as sienna, red and yellow ochre, sandstones, granites, lava stone, marble of all colors, onyx, in great amount, alabaster, and other materials included in the list of commercial minerals. With so great a combination of material resource, the county is rich beyond computation, its true greatness lying in the fact that these resources remain practically undeveloped, and it is in this fact that all of Colorado is so immensely rich. In proportion to population the financial, educational and social standing of the county is excellent.

Assessed valuation	$ 3,450,000
Real valuation	10,360,000
County debt	110,000
Rate of taxation, 25½ mills for all purposes	

The agricultural advantages of Fremont county are of great importance. The lands are divided as follows, according to present uses:

Total acres available for agriculture	100,000
Pasture lands, acres	1,000,000
Total acres under ditch	45,000
Acres cultivated under ditch	45,000
Total acres unsold State land available for farming	9,000

Price of land, Government, $1.25 per acre; deeded land, average, $5 per acre. The soil varies from a sandy loam to a stiff clay, known as adobe. It yields every vegetable fruit or farm product that can be grown in the St. Louis or Washington latitude.

Fremont county has long held its reputation as the banner fruit growing section, because of its priority as a variety producer. At a recent fair, 2,500 plates of fruit were exhibited, mostly grown within ten miles of Cañon City, 150 varieties of apples, 54 of pears and 60 of grapes were to be seen. Fruit lands in this section, in 1891, yielded from $300 to $600 per acre. The figures representing the sales from one farm of ten acres during a recent average fruit growing year serve to illustrate the wonderful possibilities of fruit culture in Fremont county. These sales were as follows: (This was exceptional, the trees being set 16 feet apart. The general average, however is considerably lower than these figures.) Apples, different varieties, grown on 5½ acres, $4,361.60; other fruits grown on 4½ acres, pears, $553.43; grapes, $373.64; strawberries, $460.75; plums, $140.46; cherries, $56.60; gooseberries, mulberries, raspberries, blackberries, currents, peaches and quinces, $73.50. Total from ten acres, $6,023.89. Cost of production, packing, etc, $2,467. Net profit, $4,556.89. With but a small area in cultivation the annual value of the fruit crop is $125,000, there being many new orchards that have not come into bearing. There are these advantages: Plenty of unoccupied fruit lands; a larger yield per acre than in Eastern States; a ready market at the highest possible prices and always a sure profit.

In its advantages for the live-stock industry alone, Fremont County has great possibilities. Bee culture yields a large revenue. Above all else, inculding its production of oil, in which it supplies the State, are its resources of manufacture. The present manufactories are the oil refinery and manufacture of the greases at Florence; united oil refinery at Florence; white lead works, copper matte and zinc works, roller process mills, canning factory, machine and boiler works, carriage works, brick and tile manufactory, Mineral Springs Bottling Company works, machine works, etc., all at Cañon City. The coal mines of the county are operated by four companies, and the annual output is about 500,000 tons.

There are a number of iron deposits that will some day yield great results for the manufacture of Bessemer pig. It is impossible to give more than this brief outline of the wonderful possibilities of Fremont county. There is great wealth alone in the splendid climate and the mineral springs of the county.

The rain-fall is fourteen inches per annum with over 300 sunny days in every year. No climate could be more cheerful and healthy. Soda, iron and hot springs of unsurpassed medicinal qualities are here for the health seeker, while beautiful drives, rugged mountains, cañons and caves and saurian fields are here for the pleasure seeker. Cañon City is lighted by electricity, has a good system of water works and sewerage, and the wide streets are lined with shade trees. Within the city limits are cold soda and iron springs with curative properties for kidney and liver diseases, and three quarters of a mile are the hot springs, with ample bathing facilities. The hot springs are located at Florence, Cañon City, and Wellsville. The cold, highly carbon-

ated soda and iron springs are numerous throughout the county. All the attractions that live towns possess—good livery, beautiful scenery, including the Grand Cañon of Arkansas, and other points of interest too numerous to mention, but of the best and brightest. The hot springs are certain cure for many diseases. For the health seeker, the home seeker, the fruit raiser and gardener, with all the advantages of soil, climate and market; to the manufacturer, in any line, the capitalist and investor; to everybody contemplating change and new fields of action or for any purpose whatever, Fremont county offers fine inducements.

Garfield.

The county of Garfield possesses a great combination of material resource. It is one of the leading counties of western Colorado, embracing an area of 5,832 square miles. It is two-thirds mountainous, and the remainder is rich, well-watered valleys and fine prairie land. The soil is a deep, rich, sandy loam, susceptible of a high state of cultivation, and wherever water can be applied it is a splendid country for agriculture, yielding a high average in the cereals and grasses. The grazing lands of the valleys and the mesas, rich with native grasses and sheltered by the mountain ranges, render this county especially well adapted to stock-raising, for wool-growing, and for the products of the dairy. The mountains contain undeveloped treasures of silver, gold, iron and lead; mountains of iron, coal and stone of the finest quality, and some of the most celebrated mineral springs and health resorts of the West. The supply of coal and stone is immeasurable, and these are among the leading industries. The coal veins are enormous in extent, varying from four feet to sixty-five feet in thickness, and in their development a large part of the population is sustained. Its western boundary is the Utah line. Its elevation is 5,000 feet; its population is 7,000; Glenwood Springs, the celebrated health-resort city, is the county seat, with a population of 2,500. New Castle, the second in importance, and the great coal mining center of the county, has 1,000.

In its topography, the county is divided up with natural advantages adapted to all the variety of industries. The streams that water the land with bountiful supply are the Grand and Roaring Fork rivers, Elk, Rifle, Beaver, Parachute and Roan creeks. The assessed valuation of the county is $2,359,900; real valuation, $8,000,000; county debt, $200,000. Rate of taxation, 30 mills (State and county). Number of schools, 36; school population, 1,200; value of school property, $100,000; number of teachers, 55.

Total acres of land available for agriculture	500,000
Total acres available for pasture	200,000
Total acres land under ditch	90,000
Total acres cultivated under ditch	35,000
Total acres unoccupied available land under ditch with available water	19,000
Total acres of unoccupied Government land available for agriculture	75,000

Range of price per acre, $5 to $50. Soil—sandy loam, covered with sage. Leading products of county, alfalfa hay. All kinds of cereals, vegetables and fruits are successfully grown, while small fruits grow in all agricultural parts. Some portions of the valley lands are especially adapted to apples, pears and peaches. Estimated average yield per acre:

Wheat, bushels	22
Oats, "	35
Corn, "	25
Barley, "	32
Rye, "	28
Alfalfa, tons	5
Clover, "	4½
Timothy, "	3½
Red Top, "	3½
Native grasses, tons	2
Millet, "	4
Potatoes (Irish), "	9
Beets (stock), "	14
Beets (sugar), "	8

Estimated total value of products in dollars, 1892, in leading products:

Wheat	$ 25,000
Oats	95,000
Alfalfa	150,000
Clover	20,000
Timothy	32,000
Native grasses	51,000
Potatoes, (Irish)	400,000
Onions	30,000

Since organization the population of the county has increased from 600 to 7,000. Farm lands have increased in value about 50 per cent. in the past two years. As a result of agricultural development the towns of Rifle and Parachute have been established, and numerous new settlements made. Plenty of water, good soil and nearness to markets are the leading inducements to agricultural settlement. Four railroads, the Denver and Rio Grande, the Colorado Midland, the Aspen and Western and the Rio Grande Junction traverse the county with 137 miles of trackage. The irrigating canals are, the Grass Valley, 30 miles; Excelsior, 25 miles; and about 60 smaller ditches of private ownership, aggregating about 400 miles.

Number of cattle in county	25,400
Horses	3,710
Mules	140
Asses	60
Dairy cows	310
Sheep	5,000
Swine	400

In its climate and excellent sheltered valley lands with good grazing and fine products, Garfield county possesses fine advantages for raising fancy and blooded stock of all descriptions. The merino sheep are mostly raised for wool. Product for 1892, 28,000 pounds. Average price 17 cents. Dairying—Number of creameries, four; cheese factortes, one; estimated amount of butter manufactured, 1892, 10,000 pounds; value, $3,000; cheese manufactured, 70,000. Profit per cow per season for butter or cheese, $18. Though the country shows a fine adaptation in some large areas of valley lands for fruit growing, no very extensive orchards have been planted. The results

of first experiments are satisfactory, though the trees have not had time to come into full bearing. A large increase in acreage for fruit has been made the present year. The valley of the Grand, all the way from Glenwood Springs to its southern entrance into Mesa county, is laid with a deep, rich soil, easily cultivable and highly productive of general crops, including the cereals. Settlements are made throughout the valley, along the lines of railway. Large irrigating ditches have been constructed, and as the valley widens in its western outflow, there is presented in the view of vast areas of rich grazing lands the perspective of delightful homes and farms in the future development of this section. In the lower portion of the valley in its approach to Mesa county, many fruit farms have been planted, and this part of the Grand valley in Garfield county, becomes an important part of the great fruit growing country of Western Colorado, which is locally known as Grand valley fruit country, the home in Colorado of the peach, the apple and the grape.

The principal mining district for silver, gold, iron and lead is Defiance, where the few mines have no extensive development, the efforts of the people being mainly employed in mining for coal, burning coke and quarrying. There are also numerous deposits of the commercial minerals, which will in time have their development. It is from this county whence comes the famous peach-blow sandstone, so popularly used in building.

Number of mines of bituminous coal, 7; average price per ton, $5; average cost for mining, per ton, $2; number of men employed in coal mines in county, 600; average price paid miners per day, $3. The coal is consumed by the railroads, and the nearby towns and cities. Number of ovens, 40; capital engaged, $75,000; average wages paid, $3 per day; principal market, Leadville smelters.

Glenwood Springs is one of the most noted resorts for invalids in the country, rivaling in popularity the famous Hot Springs of Arkansas. There are ten large springs, and a large number of smaller ones, the largest spring having an outflow of 4,000 gallons per minute. From the ten springs there is an outflow of 8,000 gallons per minute. The largest of the group is located on what was once an island in the Grand river, which flows through the town, but is now converted into a beautiful garden, in the midst of which are located the mammoth bath houses, which annually accommodate thousands of visitors, who resort to Glenwood for health and pleasure. These springs are alkaline, saline, sulphuric, chalybeate, caloric and thermal The extreme temperature of the water is 126.4 degrees. The number of grains of solid contents or minerals, to the gallon, varies from 1.243 to 1.254. One of the most wonderful of the springs is that found in a natural cave in the mountain side. The cave is fifteen feet high and forms a large chamber with solid stone walls. The hot spring in the cave furnishes a natural Russian bath which cannot be excelled. The sanitarium feature alone is sufficient to render Garfield county an attraction to the world.

The hotel accommodations in Glenwood Springs are excellent and ample, while the suburban towns and villages have also been provided with accommodations that render them desirable places for country resort and recreation. The completion of the splendid new hotel, The Colorado, at Glenwood Springs, this year, at a cost of $300,000, will be for the especial benefit of the health and pleasure seeker and is a great triumph. In connection with the hotel a large bathing pool and new bath house has been constructed at a cost of $100,000.

In the grandeur of the surrounding mountain peaks and ranges; in the delightful streams and verdure of the valleys; in the healthful climate and in the many provisions for the health and pleasure seeker, Garfield county possesses untold attractions, in addition to its great industrial advantages to the home-seeker and the capitalist.

Gilpin.

The "Kingdom of Gilpin," as is applied to the county of that name, was so-called after the first Territorial Governor of Colorado, the Hon. William Gilpin, now living in Denver, ripe with age and full of honor. It receives this title because of its exceeding richness in gold and its large output of mineral from year to year. Geographically it is located a little north of Central, Colorado. It is situated directly in the gold and silver belt of the Continental Range. The population is 5,694, of which Central, the county seat, has 2,700. Black Hawk, 1,000; Nevadaville, 1,000, and Russell Gulch, 200. All these places are mining towns, and the entire county is made of mining districts and mining settlements. Gilpin county was formed from the mountain territory of Jefferson county, under the provisional government, and was reorganized by the first Territorial Legislature in 1861. It has the most important connection with the history of mining development, as it was upon these grounds that the first great gold discoveries were made. Russell Gulch was one of the objective points for the gold hunters, and later, after the country thereabouts became more thickly populated, as richer strikes followed, that section of the State became the scene of many exciting episodes. Miners' courts promulgated all the law that was recognized at that time, and the justice then dispensed was of a character that demanded respect. From this rough condition was this splendid county hewn. Gilpin county is in fact the cradle of Colorado's progress. It was in Gilpin county that Green Russell and his party from Georgia found the rich placers in 1859, the discovery of which electrified the country and started westward the tide of immigration. Among the mines at work are 85, which produce in large quantities. There are 23 stamp mills all using Gilpin county concentrators. No mining county in the State has a finer outlook for the future. The annual average output has been for some years past approximately as follows: Gold, $1,250,000; silver, $288,000; lead, $70,000; copper, $21,000. The assessed valuation of the county is $1,774,219, the real valuation being estimated at $4,000,000.

Gilpin county has a splendid school system. There are twenty-three public schools, not including the High school at Central and the Aloysius academy. The estimated school census is 1,625, with a total value of school property of $50,000. The Colorado Central and the Gilpin County Tramway are the railroads, the former twelve miles in length and the latter seventeen miles. Here as in the surrounding counties, mining is on a legitimate basis. As for the future, Gilpin county has a supply of mineral that is inexhaustible, and the development that is going on still invites capital for more extensive explorations, and the miner to new fields of discovery.

Grand.

Situated west of the Continental Divide, is the county of Grand, embracing about 2,500 square miles. Grand is the county of the Middle Park, a magnificent stretch of country lying between the Continental Divide on the east and the Wind River Mountains on the south. This is the country of the "New Empire" of the north-west. Through it the Grand river (from which the county derives its name) flows with its many tributaries. It is a vast feeding ground for thousands of cattle, and it is to the live-stock industry in fact the county is almost entirely devoted. Nowhere are the grasses more nutritious, the water better and more abundant, and nowhere in the State is the shelter more complete. Here the stock are protected by the high ranges, and for this reason severe winters are unknown. As a pleasure resort Grand county has but few equals. The Hot Sulphur Springs in the center of the park, Grand lake, and the numerous retreats among the timbered growth on the hill-side and by the river banks, make it an attractive place. At the springs the elevation is 7,500 feet, and in some places in the county the altitude is 11,000 feet. Coal is supposed to exist in great quantities, and being comparatively a new county, the deposits are undeveloped. In this county there are about 25,000 acres under irrigation, and the growth of agricultural products is fine. Dairying is also an industry of considerable promise. Last year about 8,000 pounds of wool was raised. In truth the county has many advantages. But at present the main industry is stock raising. In 1892 the total acreage of grain and hay was greatly increased over all previous years, all products being mainly for stock purposes. The hay crop aggregated 12,000 tons. The population of Grand county is about 700. Among the possibilities of the future for Grand county are the beds of granite, which is highly variegated, sustains a durable polish and makes excellent building material. There are also deposits of silver and lead.

So picturesque are the beauties of the parks in this county, that for some years the plan of setting aside that portion of the public domain as a Government reservation, has been under consideration by Congress, for a National Park, subject to the same regulations which govern the celebrated Yellowstone Park. Middle Park, which forms a large proportion of the county's area, embracing all the land

that is not in the mountains, possesses great attractions for the hunter, fisherman, tourist and health-seeker. Grand Lake and Hot Sulphur Springs are the objective points, for here they find all requisite conveniences and accommodations, and from these points excursions are made to the streams and forests. On the shore of Grand Lake is situated the town of Grand Lake, the seat of Grand county. Here fine accommodations are made for the entertainment of invalids, and the convenience of visitors seeking recreation and pleasure. Grand Lake is a beautiful body of crystal water, spreading out over many miles, having a rocky bottom and a sandy beach.

Hot Sulphur Springs are situated about ten miles distant, on the west bank of Grand river. Here are a group of springs, having a temperature of 117°, which empty their waters into a basin, having commodious arrangements for bathing. These waters, both for drinking and bathing, possess remarkable virtues in healing skin diseases, liver and kidney diseases, dyspepsia, rheumatism, and a host of kindred complaints. The constituents of the Hot Sulphur Springs are carbonate of soda, lithia, lime, iron, sulphate of potash, sulphur, sulphate of soda, chloride of sodium, giving a total solids of 120.24. With railroad facilities, which is one of the expectations of the near future, Grand county will become a country of large industrial development, while the resorts of Middle Park will ever be popular points of attraction.

Gunnison.

Among the first to attract great attention and a large inflow of population during the first years of the Leadville mining excitement was the county of Gunnison. Its fame went abroad as a mining section of great possibilities, and the permanent settlement of the City of Gunnison and the numerous mining camps was coincident with that of Lake county's great carbonate camp. It is distinctively a mining county. But its wealth in gold and silver is not to be compared with the enormous stores of other resources which are being constantly revealed by the processes of discovery and development which as yet has scarcely had a fair beginning. The progress of mining for the precious metals from the early days is a record of prosperity, and the field is one of great promise, but the great riches of the county for future generations, perchance for centuries to come, lie in its great combination of material that form the basis of permanent and diversified industries. First of these in importance are the numerous, immense and immeasurable bodies of iron that await the era of great manufacture. The leading resources may be enumerated as follows: Hematite iron, magnetic iron, manganese, anthracite coal, coaking coal, bituminous coal, lime for fluxes, fire-clay by the square mile, sandstone, granite, gold, silver, lead, copper, black marble, white marble, serpentine marble, variegated marble, mica, mineral paint, kaolin, fire-clay, gypsum, lime, cement, and a great variety of the commercial minerals too numerous to mention. Thus it will be seen

that the county can properly be divided into two great mineral classes —coal, iron and marble for the one class, and gold, silver and lead for the other.

But these are not all of its advantages for permanent industry. It possesses many broad valleys of fertile soil watered by that splendid stream of crystal water, the Gunnison river and its tributaries, and there are the possibilities of agriculture with every advantage for the live-stock industry, which is one of the important sources of its wealth.

Gunnison county was organized from original territory in 1877. Its population is estimated at 6,000. It is a county of immense area, being 87 miles in length by 63 miles in width at the longest and widest places, and contains (horizontal measurement), 3,340 square miles, or 2,137,600 acres. For the most part, the county is broken and mountainous, the altitude ranging from 4,500 to 7,000 feet. The valleys are occupied by ranchmen and stockmen, and about 48,000 acres of land are now occupied by ranchers whose lands are subject to taxation, 30,000 acres available for agriculture, and 15,000 acres under ditch. The lands are productive of the cereals, but farming thus far has not proved their most profitable production, and the principal uses of the lands have been the cultivation of hay, potatoes and vegetables, the former being uniformly a successful and profitable crop, suited to the requirements of the live-stock industry, while at the same time commanding prime prices in the markets for all surplus.

With these peculiar advantages of agriculture, coupled with the fact that within these valleys and upon the hill-sides there is a summer range of 500,000 acres, unexcelled for richness of native grasses, there is great opportunity for the expansion and improvement of the live-stock interests in every department. Besides the certain supply of the most nutricious of provender, there are the advantages of pure water, a mild climate, sheltered pasture and a long season of grazing, all combining, in the best possible adaptation, for the breeding and successful raising of fine horses, fine and fancy cattle, and sheep for fine wool production. In the lower Gunnison valley, the soil and climate are adapted in some respects similar to the fruit-growing sections of the western counties, and experiments have proven that fruit can be successfully grown in many localities. The principal market and distributing point is Gunnison City, the county seat. It has a population of about 2,000, is well equipped with business establishments, banks, hotels, churches, amusements, manufactories, and has two railways, the Rio Grande and Union Pacific, connecting the city with the mines, quarries, etc., and thence connecting with all the main lines that ramify the State.

The other principal towns of the county are Crested Butte, where the anthracite and coking coals are located, with a population of 1,000; Sadler, Pitkin, a mining center, with a population of 800; Tin Cup, mining town, 500; Ruby, mining town, 200; White Pine, mining town, 200; Gothic, 100. The principal mining districts are Pitkin,

Tin Cup, Tomichi or Quartz, Rock Creek and Ruby, and the varieties of ores mined are lead carbonates, lead sulphides, silver glance, zinc blend, grey and other copper ores. The area of coal alone is 252 square miles, and it is estimated that the area within all parts of which gold and silver ores have been discovered is about 1,500 square miles. In 1887 the valuation of the county was $1,033,387. The valuation in 1892 was $2,335,409, representing a real valuation of $7,000,000. The following statement of production is for a period of ten years, from 1881 to 1891:

Gold, silver and lead	$ 4,578,301
Anthracite coal	1,050,000
Coke	1,592 000
Bituminous coal	4,261,480
Granite (for State Capitol)	147 000
Total	$ 11,628,781

Anthracite coal, $3 per ton; coke, $4; bituminous coal, $2.

If with an average population of less than 3,000 the county can produce over $1,000,000 per annum, it shows possibilities that are incalculable for the future that promises a full industrial settlement. As a result of scientific explorations among the iron deposits of Gunnison county, the points where the larger bodies of standard quality are located are near White Pine, the Iron King near Gunnison, and the Cebolla deposit, nineteen miles from Gunnison, on the Denver and Rio Grande railroad, at the mouth of Cebolla Creek. The White Pine deposit is a rich magnetic oxide. The Cebolla deposit is largely manganese and hemotite, averaging 43 per cent. manganese, and 0.12 phosphorus, with a range of from 17 per cent. to 52 per cent. manganese, and as low as .04 per cent. and .06 per cent. phosphorus. The ore averages 55 per cent. iron.

The following is an average analysis of the White Pine magnetic ore bed:

Metallic iron	66.320
Silica	1.106
Sulphur	0.13
Phosphorus	0.124
Phosphorus in 100 parts iron	.186

The Iron King is a deposit of extraordinary and almost indefinite possibilities. Samples from the whole mass give:

	Per cent.
Metalic iron	49.71
Sample from whole cut—90 feet—metallic iron	52.10
General sample from 40 feet—metallic iron	55.62
Samples from whole length—metallic iron	58.19
Samples from best exposures near limstone wall—metallic iron	67.27

Analysis of general sample:

	Per cent.
Water	.65
Silica	3.85
Iron metal	58.75
Sulphur	0.123
Phosphorus	.44

All the prerequisites of success in the manufacture of cheap pig metal are found in Gunnison county. The first of these is abundant ore running above 55 per cent. of metal, at a low cost of mining.

Second an abundance of coal, coke, limestone and clay near by, with a down grade haul to the furnaces. Ample railway facilities are assured. The freight on the different materials from the mines to Gunnison, where a furnace of steel works could be situated would not exceed $1 per ton on ore and manganese, and 50 cents a ton on coal, coke, lime and fire-clay. It is estimated that Bessemer pig-iron can be produced at Gunnison City at a total cost of $11 per ton.

While the extensive anthracite field at Crested Butte supplies the State with the greater part of this article, the fields of bituminous and other coals are numerous and extensive, many of them unexplored and untouched for development. The largest and finest beds of marble known in the State are found in Gunnison county, and the granite is the most beautiful, durable and best suited to building, the new State Capitol at Denver being built of the granite from this section. The marble beds include a massive ledge of pure white statuary marble 250 feet thick, very hard, very fine grained and capable of the highest polish. In this review merely an outline of the industrial advantages of Gunnison county has been attempted. In addition it has many advantages of climate and health, and many invalids sojourn at various places through the county for improvement and often realizing restoration. All in all the county has no superior, and few rivals in the West for variety of industrial possibilities, and no superior in point of wealth, as it is contained in the great reserve of undeveloped resources.

Hinsdale.

This is an important mining county, and in point of its industrial productiveness, it is almost exclusively so. It has about 10,000 acres of land available for agriculture, and 5,000 cultivated, under ditch, but the agricultural product is so small, and of so little variety, that no statistical account is taken of it. It has also about 150,000 acres of grazing land, but contains no large herds of live-stock. Approximately, 1,000 head of cattle are wintered, and from 3,000 to 5,000 head are "grazed" in the county in summer.

Hinsdale county was organized in 1874, and is one of the old settlements of the great San Juan mining region. It contains 1,500 square miles, and has a population of about 8,000. Lake City, with a population of 2,000, is the county seat; other principal towns, Bachelor, 1,000. Other camps and villages, Spar City, Capitol City, Carson, Sherman, Burrows' Park, Rose's Cabin. The historic Rio Grande has its source in this county, and the various streams, valleys and forests afford good hunting and fishing, while in some parts the scenery is charming, both in the grandeur of mountain heights, and the delightful glimpses of peaceful valley lands. Assessed valuation, $2,500,000; real valuation, $6,000,000; county debt, $152,000. Rate of taxation, 4 per cent.

Since the date of ogranization in 1874, the population of the county has increased from 100 to 800, town and city property has in-

creased from nothing to $2,000 per lot of 25x125 feet. The Lake City and Creede branches of the Denver and Rio Grande railroad are the means of railway transportation from the many camps.

The county is divided into the mining districts of Galena, Carson, Sherman, Lake, Park, King Solomon and Royal Arch. Character of ores mined, sulphurides, chlorides, sulphurets, carbonates of silver, lead, copper, gold, tellurium and zinc. Number of developed mines in county, about 100. Hinsdale county contains one of the largest areas in the State of mineral lands of known value but slight development. The veins are large, many of them enormous, and the grade of the ore averages high. Aside from its known wealth of silver ores, it contains much gold-bearing territory of fine promise, which is almost altogether undeveloped as yet, but cannot long remain so in view of the new impetus given to the mining industry in that county.

Huerfano.

Huerfano county is one of the wealthiest in the State, in the abundance and variety of its material resource. In 1861 it was organized from original territory, and in 1873, the earliest date such statistics were gleaned, the valuation was 376,873; this year the assessed valuation is $1,740,498, and the estimated valuation over $5,000,000. Bounded on the north by Pueblo, north-west by Custer and Saguache, west by Costilla, and south by Las Animas, the county, it may be seen, is the center of rich deposits of raw material of all kinds and one of the chief repositories of the future vast coal supply. There are over 1,700 square miles in the county, with the streams of Apache, Huerfano, Cucharas and Santa Clara rivers, running from north to south. In the western part of the county are the large forests. In the valleys and upon the table lands the soil is fertile in every direction. There are about 6,967 people in the county, of which Walsenburg, the county seat, has 1,000; and La Veta, 35. Two-thirds of the people come from the Southern and Eastern States, and one-third from New Mexico, of which the county was once a part. Their condition is good, being engaged in farming, stock-growing and mining. Educational facilities are good. The total number of acres available for agriculture, 363,000; for grazing, 726,600; under ditch, 71,200; unoccupied public land, 256,400. Pine, piñon, spruce, cottonwood, elm, cedar and oak are the varieties of timber, with four saw-mills in operation, having an annual output of 1,500,000. Silver, gold, iron, copper, lead and manganese are the ores mined and the principal districts are the Huerfano and Spanish Peaks districts. Silica and fire-clay, marble of all colors and building stone of fine quality are also found. The first mineral discoveries were in 1875. Estimated value of output of mineral last year was $20,000 principally from the five mines in operation. The future of mining in this county is good, and especially is this true of coal. Last year the total output in this product was 500,000 tons. In this county the coal has a peculiar formation. The top veins are from five to six feet in thick-

ness; the second vein seven and one-half feet and the lower veins three and one-half feet, with a stratum of sandstone and slate intervening, running in some instances fifty feet thick. It is estimated that there are yet 100,000 acres of coal lands open for filing. There are several mineral springs in the county, mostly impregnated with sulphur. Grazing continues to be an extensive industry. Dairying has improved as a distinct industry, aggregating in value $30,000; value of honey raised last year, $20,000. It is estimated that 50,000 acres were sown in grain last year. The climate is not excessively cold nor too warm. An ample protection is afforded by the mountains. There is an abundance of timber for building and fuel of all kinds is cheap. For manufacturing there is no county more promising. There are thousands of acres of good agricultural land yet open to settlement with plenty of water for irrigation. Such are the inducements offered by Huerfano county to those seeking homes. The county is traversed by the Denver and Rio Grande and Union Pacific, Denver and Texas railways, giving an outlet in all directions for the produce of the people.

Jefferson.

The county of Jefferson possesses splendid advantages of agriculture and is rich in mineral, together with a great variety and enormous amount of material for manufacture. It was organized in 1861, adjoins Arapahoe county on the west, contains an area of about 800 square miles, embracing an agricultural strip noted for its beauty and fertility, of about twelve miles in width by thirty in length, highly productive of the cereals, the grasses and fruits of many kinds. The remainder of the county is composed of foot-hills and mountains, where the great wealth of mineral products are found. The population is approximately 8,450. The principal towns are Golden, population 4,000; Morrison, 500; Arvada, 150. Golden, one of the oldest settlements in the State, is a manufacturing point, and the seat of the State School of Mines and the State Reformatory. It is the local market of the farmer and surrounded by unknown wealth of material for manufacture and building. Morrison, besides being a delightful health resort is sustained mainly by its wonderful industrial resources. Arvada is situated six miles from Denver, in the midst of a splendid garden and farm district, and is becoming a point for manufactures suburban to Denver. At its organization in 1861, with a small settlement divided in interests between agriculture and mining, both in their primitive stages, the first years' assessment was $166,000. The assessed valuation of the county is now $4,214,602; real valuation, $12,000,000; county debt, $167,626.

Total acres of land available for agriculture, 175,000; total acres available for pasture, 337,000; total acres land under ditch, 95,000; total acres cultivated under ditch, 80,000. The South Platte river, Bear Creek, Clear Creek, Ralston Creek, and Deer Creek, all about equitably distributed, rush out of the mountain cañons into the plains part of

Jefferson county, affording abundance of water for irrigation and domestic purposes. The soil of Jefferson is generally of a sandy, clayey loam, highly productive. The average yield per acre for the cereals and grasses is stated as follows: Wheat, bushels, 30; oats, bushels, 40; corn, bushels, 25; barley, bushels, 45; rye, bushels, 21; alfalfa, tons, 4; clover, tons, 2½; timothy, tons, 2½; native grasses, tons, 2; potatoes, (Irish), tons, 5.

The leading inducements to settlement, in addition to the resources of wealth, are convenience to the markets, and the excellence of the climate. The county is abundantly supplied with railway facilities, there being eight lines passing through different portions of the county. For irrigation of the agricultural lands, there are six large irrigation canals, having a total length of 96 miles, irrigating 95,000 acres of farm lands, orchards and gardens. The live-stock interests of the county are of great importance, owing particularly to the breeding of improved stocks of animals, both for utility and fancy. The dairy interests of Jefferson are of large importance, and the estimated product of butter in 1891–92 was 125,140 pounds, having an average price of thirty cents per pound. With 2,536 hives of bees, 77,683 pounds of honey were produced last year. The orchard and the garden for small fruits is a most important part of the general industry, the principal fruit crops being apples, grapes, pears, strawberries, blackberries, gooseberries, currants and raspberries. The surplus of these products have a convenient and ready market in Denver and the mountain towns.

The various manufactures for which the raw material is procured in the county, are fire-brick, pressed brick, tiling, pottery, lime, cut stones, plaster of paris, sewer pipe, stoneware conduits, gold, silver, copper and lead reduction works, beer, paper, flour, feed, bee hives, wagons, ale and porter, calcined fire-clay, etc.

Five mines are being now worked for iron ore, while semi-bituminous coal veins, five to sixteen feet thick, are numerous. The annual output of coal is about 20,000 tons. Of the commercial and manufacturing minerals, there are eleven deposits mined for fire-clay, distributed as follows: Golden City, 3 mines; Golden Gate, 3; Dry Creek, 2; Apex, 2; Glencoe, 1. Silica is mined at Glencoe, gypsum at Morrison, and lime is found in great bodies all along the foothills, from Platte Cañon to Ralston Creek.

In addition to the numerous opportunities offered for enterprise by reason of the great combination of natural resource, the good farming lands in close proximity to the markets, the splendid facilities for irrigation, good churches, good schools, good society and a healthful climate, form a leading part in the many inducements to the home-seeker and the capitalist.

Kiowa.

Kiowa is one of the agricultural and stock-raising counties of eastern Colorado, adjoining Kansas on the east, and bordering the Arkansas valley on the south. It is one of the new counties, organized in 1889, and having been so recently transformed from the range to an agricultural settlement, farming was not attempted there until the year 1890. Therefore, it is in its primary stage of development, with a pupulation of 1,840, principally devoted to agricultural pursuits, the crops being raised, for the most part, without irrigation. The soil is a dark, sandy loam, with a marl and clay sub-soil, through which run the streams of the Big Sandy, Rush Creek, Adobe Creek and Whiteman Creek. The Big Sandy is the only living stream, affording water for stock and for irrigation to a limited extent. The county contains 1,794 square miles, and has an elevation of 3,900 to 4,025 feet. The country is generally a level prairie, broken only by the valleys of the streams, which are heavily fringed with timber, and numerous depressions which become refreshing lakes during seasons of rain, affording water throughout the dry months for live-stock.

The Missouri Pacific railway extends through Kiowa county east and west, and along this line have been built numerous towns. Assessed valuation of county, $1,326,738; estimated real valuation, $4,500,000; county debt, $12,000; rate of taxation, State and county, 21 mills; total acres available for agriculture, 1,200,000; acres suitable for pasture only, 25,000; total acres under ditch, 5,000; total acres cultivated under ditch, 500; total number acres of unsold State lands, available for agriculture, 60,000; average price per acre, $2.50.

While 25,000 acres are classed as suitable for grazing only, the entire county consists of the most excellent natural pasturage, except where occupied by farms. Wheat is stated as the leading product within the capabilities of soil, but the volume of its production and profit has been insignificant thus far when compared with that of sorghum, for which all the land of the county is especially well adapted. The value of the sorghum crop for 1892 is estimated at $500,000, the estimated total production being 125,000 tons. With the exception of the small area of 500 acres under ditch, all the lands have been cultivated by rain-fall, and great advantage is claimed for the county in this respect. The cereal crops, thus far, however, have been quite limited in volume, with an average production per acre about as follows: Wheat, 18 bushels; oats, 26; corn, 25; barley, 20; rye, 22; sorghum yields 5 to 10 tons without irrigation. One of the largest land companies in the State has now under construction a large canal from the Arkansas river, extending from the western boundary of the county to a point twelve miles east of Arlington, draining into a great natural basin, which, when filled will be the largest body of water in the State, having a depth of forty feet and covering an area of thirty-six square miles. This lake will be filled during the winter and reserved for summer use, and it is estimated that it will irrigate two-

thirds of the cultivable land in the county. In the process of irrigation the surplus and seepage waters will naturally drain into the smaller lakes so numerous and they, too, will become perpetual reservoirs for irrigation supply. These lakes can also be filled from the ditches during the non-irrigating period.

Blue stem grass grows so luxuriantly that ranchmen dispose of it readily at good prices in the markets of Denver. Sorghum cane produces so abundantly that three factories have been established in the county for the manufacture of syrup and sugar, which is of excellent quality, all the surplus finding ready sale in the Kansas and Colorado markets. Here is opportunity for a great industry that could be made sufficient alone for the maintenance of the county. The range interests are of considerable importance, and by reason of the cheap maintenance of all animals could be made an industry of great profit. There are at present 25,000 animals in the county, and 18,000 of these are cattle, principally upon the ranges. In view of the great improvements to be made under the reservoir system, the opportunity of obtaining cheap lands and cheap homes in Kiowa county are exceptionally good, as both Government land and cheap State lands are being placed under irrigation, while the deeded lands average very low in price. The additional cost of water is by rental $1.50 per acre per season; perpetual water rights, $8 for 80 acres, with an annual maintenance assessment of 15 cents per acre.

Kit Carson.

This county was created in January, 1889, and formed from the eastern third of Elbert county. It is one of the eastern border counties, occupying a central position among them and having 2,160 square miles. Its elevation is 4,600 feet. It is one of the "rain-belt" counties, where farming without irrigation has just past the era of experiment, agriculture and stock-raising being the principal occupations of the people. The name of the county was bestowed in honor of Kit Carson, the noted pioneer and celebrated scout among the Indians. It was originally a part of the great cattle range of Eastern Colorado, but since its separate county organization and the introduction of agriculture, stock raising has become in part an enterprise of the farm, although it possesses great advantages of pasture in its broad domain of unoccupied Government land, which is also available for agriculture, but dependent almost wholly upon the rain-fall. The time since the county's organization has been too brief for any very considerable progress as compared with the older counties, yet it has many elements of promise, chief among them being nearly a million acres of unoccupied Government land, available both for agriculture and stock raising, while possessing also some valuable resources for other industries. Population of county, 2,700; county seat, Burlington, population, 300; other towns, Flagler, Bethune, Claremont, Vona and Seibert. The county is mostly a level prairie,

covered with buffalo grass. Assessed valuation, $1,372,409; county debt, $720; rate of taxation, State, 4 2-5 mills; county, 10 mills; general school, 4 mills.

Total acres of land available for agriculture, 1,244,430; total acres under ditch, 950; total acres cultivated under ditch, 350; total acres of unoccupied Government land available for agriculture, 929,700; total number of acres of unsold State land available for agriculture, 13,000. All the lands available for agriculture are also estimated for pasture.

The assessed value of $2.50 per acre, is quoted as the average value of land. The soil is a dark, deep sandy loam, and the leading products are wheat, rye, barley, oats and corn. Of other products that are successfully grown are broom corn, sorghum, potatoes, millet, peas, beans, pumpkins, squash, watermelons, muskmelons, beets, peanuts, turnips, cabbage and in fact all field and garden vegetables.

Agriculture in Kit Carson county may be regarded as on a par with most of the non-irrigated counties of eastern Colorado, where for the first year or two farming was purely experimental, but the people who from the first settled there have been pursuing their original purpose of establishing permanent homes and farms. Depending upon agriculture, they have continued to improve their surroundings, and strengthen their industries, and to-day their faith is unshaken in the future possibilities of their country, while new settlements and new homes are being continually made.

While the county is well adapted to the live-stock industry on a large scale, the animals are confined principally to the farms for domestic purposes. Thus the dairy business and the sheep and wool industry gives promise of a great future. With plenty of good water, at slight depth, a mild and healthful climate, plenty of cheap, productive land, Kit Carson county has many attractive advantages to the home-seeker.

Lake.

The magic city of Leadville, the great silver producer of America, is the capital and mining center of Lake county. Leadville is known the world over, and the name is justly associated with massive fortune. So great is its fame, the identity of Lake county is synonymous with that of the silver city, with its broad environments of treasure-laden hills, covering an area of 15x24 miles. The names of Iron Hill, Carbonate Hill, Breece Hill and Fryer's Hill, with their honeycombs of precious metals, are known in every land, and the Little Pittsburg, the Robert E. Lee, Colonel Sellers, the Smuggler, the Silver Cord, the Maid of Erin, and other rich mines by the score, have distributed their wealth to the people of all the world. Great fortunes have been made here in the past, great fortunes are being made to-day, and still greater fortunes await those who will dig the treasure from the deeper depths in the future.

Within a period of twelve years, the State of Colorado, so great in its combination of industrial resource, has grown into a condition of prosperity and independence unparalleled in the history of new

countries, having received the true impetus of its marvelous development from the first discoveries at the great carbonate camp in 1879. The figures which tell the substantial story of that first years' development are startling in the extreme: $10,333,740 taken from the shallow openings in gold, silver and lead. The enormous production of each succeeding year to the present has contributed in great proportion to the establishment and growth of every industry in the State; it has been the chief magnate to immigration and the first attraction to the numerous lines of great railways that connect Colorado with every State in the Union. It is this capital that has built a large portion of Denver, Pueblo and other towns and cities of the State, giving competence and fortune to many hundreds in Colorado and making many happy hearts and homes throughout America and foreign lands. Great fortunes were made by placer mining in Lake county long before the greater treasure in carbonates came to light. The discovery of California gulch, which forms the southern boundary of the City of Leadville, dates back to 1860, and it is a well attested fact that something like $15,000,000 in gold was taken from the bed of the gulch before it was exhausted. Eighteen years later, however, the section was again brought into prominence by the discovery of the deposits of lead carbonate ore. Reports of the marvelous discoveries soon spread, so that by the close of 1878, about 1,500 people were clustered together in log cabins and tents, the first habitations of Leadville. Then it was the mining hamlet of Oro, but the unparalleled stampede from every section of the country soon transformed the hamlet into a city of 30,000 people, and this within a period of six months. Leadville was then incorporated, but with the cabins and tents and all the crudities of a pioneer town still predominating. But Leadville did not wait upon the advent of railroads, but quickly supplied itself with many of the comforts and conveniences of civilized life, and long before the whistle of the locomotive woke the echoes the city was supplied with telegraphic communication with the outside world, with also a telephone service connecting the business houses with the principal mines; with water and gas and electric lights; with sewers and graded streets; with an adequate fire department and police protection; with theaters and other amusements, and if there were no church buildings, there were christian organizations and places of worship.

As the figures of production for 1879 and each subsequent year will show, this was the beginning of the real substantial, profitable development of Colorado's mines, and now, since the day of sensational booms has long ago passed, there can be no comparison between the mining business of the present and that of twelve years ago, embracing the period of the Leadville discoveries. That was the era of the new beginning. Sure progress and a permanent prosperity mark the operations of to-day.

The treasure which lies beyond the reach of present operations is known to be greater, beyond the possibility of comparison, than the great total output in gold, silver and lead, of $179,710,207 since the year 1879. In the older mines of Leadville alone there will remain fabulous masses of treasure for generations, possibly for centuries to come. The limit to the depth of rich ores has never yet been reached. A signal feature of the past year's mining has been the number and frequency of important strikes in the old mines of Leadville, giving an impetus and interest to mining that the district has not enjoyed for years. Similar strikes have been made in the mines of the numerous outlying districts of the county, where also new properties have come into profitable production, and where some splendid finds of gold have recently been made, awakening a new interest and renewed search for the yellow metal. Discoveries made in the course of extensive development in the mines within the city limits has confirmed, in the minds of experienced miners, the idea that the whole city of Leadville is underlaid with an enormous body of high-grade ore. Prospecting experiments with the diamond drill have proved almost beyond question the correctness of such theory.

The prospects throughout this great area of mineral formation are without number and there is no telling how many of these unexplored properties, especially in the new districts may prove to be as great in mineral wealth as those that have given so much treasure. Thus it may be seen that the future offers greater opportunities in Lake county than were known or thought of in the past.

The following table shows the annual yield of Leadville mines from 1879 to 1893, in gold, silver and lead, as reported by the respective mine owners:

Year.	Value in dollars.	Year.	Value in dollars.
1879	$ 10,333,740 69	1887	$ 12,072,967 81
1880	15,095,153 00	1888	11,605,205 48
1881	13,170,576 00	1889	13,639,351 75
1882	17,131,853 00	1890	11,798,892 84
1883	15,839,446 00	1891	11,916,740 00
1884	12,837,497 00	1892	8,160,388 00
1885	12,357,662 00		
1886	13,750,733 30	Total	$ 179,710,207 98

The large falling off in value of output for 1892, may appear to be a fact in contravention of all the claims of increased development, new discoveries, etc., which should add, rather than take from the volume of annual yield. This is easily accounted for without the slightest disparagement to the interest in Lake county. There is one leading cause which brings with it other reasons for mitigation, namely, the low price of silver and lead in comparison with former years. Taking into account also the fact that owing to the low price of silver and lead a number of large producing mines have decreased their working force or closed operations altogether during the past year, it is very clearly demonstrated that the output of 1892 was fully equal in volume to that of each of the other two succeeding years.

The principal employment of the people other than mining and smelting, are merchandise and manufacturing, subsidiary to mining. The average wages paid miners is $3 per day. The whole county comprises a scene of mountain grandeur, which may be overlooked from Mount Massive, five miles from Leadville. Evergreen Lakes and Soda Springs near by are delightful places of summer resort. The air is cool and dry, the waters invigorating, and in all respects the climate congenial.

The future prosperity of Lake county is as certain as the continued existence of the mining industry of Colorado.

La Plata.

La Plata is one of the great industrial counties of the State, having unmeasured wealth in its combined interests of agriculture, livestock, mining, manufacturing, smelting, its coal and coke industries, and varied attractions of nature, among them its splendid mineral springs and places of health and pleasure resort. All these developments are singularly illustrative of the peculiar and rapid transformation of a western country from the state of savagery to that of a high order of civilization. Twenty years ago the Indian held full possession. A small portion of the county proper is still his home, and until near fifteen years ago there were but few traces of the footsteps or handiwork of civilized man. The county occupies an area of 2,700 square miles, being 60x45 miles in extent, and is the leading industrial county of South-western Colorado. In 1873, and for a year or two previous, the San Juan mining excitement brought swarms of prospectors into the country, and in 1874, La Plata county was formed from parts of other counties. The towns of Animas City and Parrot City were the first settlements within the present limits of the county, and in the spring of 1880 the site of the present city of Durango was laid out; in 1881 it was incorporated, and is now a thriving city of 7,000 inhabitants, the total population of the county being 10,000.

The topography of the county comprises high mountains in the north, foot hills and high mesas on the upper half and broad valleys and extensive lower mesas in the southern half. The upper mesas and mountains are finely timbered, and the entire county is amply watered by the Los Pinos and Florida creeks, and the Animas and La Plata rivers, affording the best of water for domestic and irrigation purposes. These streams course through large areas of the richest kind of agricultural lands, both valleys and mesas being equally productive of every plant that is indigenous to a southern climate, embracing many hundreds of thousand of acres as yet unoccupied, including a portion of the Southern Ute Reservation, when these lands shall be finally opened for settlement.

Assessed valuation of county, $2,301,768; real valuation of county, $6,905,304; county debt (bonded and outstanding warrants), $180,000; average rate of taxation for all purposes, 45 5-6 mills. Of the above

assessed valuation, $1,149,211 is upon Durango lots and buildings; real value of same estimated, $3,447,633. The school census of the county is 1,308. The following statement shows La Plata county to be a most promising field for farming and the live-stock industry: Total acres available for agriculture, 640,000; total acres available for pasture, 600,000; total acres under ditch (including lands accessible to present system), 300,000; total acres land cultivated under ditch, 24,214; total acres unoccupied available land under ditch with available water (including lands in Ute reservation,) 235,698. The soil is a rich admixture of sandy loam, clay, etc., productive in a high degree of wheat, oats, hay, potatoes, beets, rye, barley, corn, all kinds of fruits and field and garden vegetables. Crops have grown so enormously rich in places and so far above the general average as to appear incredible, some fields yielding as high in wheat as sixty bushels, and oats 100 bushels to the acre, other products maturing in the same ratio in exceptional cases. The averages are stated as follows for leading products: Wheat, bushels, 25; oats, 40; alfalfa, tons, 5; clover, 2½; timothy, 2½; red top, 2; native grasses, 1½; potatoes, tons, 6; sugar beets, 12. Nearest market place, Durango; estimated total value of leading farm products, 1892, $300,000.

With its extensive ranges of grass and its fertile lands, productive of all the farm crops the county possesses superior advantages for the live-stock industry.

The yield of the orchards in the past two years establish as a certainty that fruit culture will be one of the large and profitable industries of the future, the mesas and higher grounds of the valleys being especially well adapted to peaches, apples, pears and grapes.

The City of Durango has become an important manufacturing point. The leading establishments of the county, including several saw mills at other points, are enumerated as follows: Iron works, 1; planing mill, 1; saw mills, 5; lumber manufacturing companies, 3; flouring mills, 3; pressed brick companies, 2; lime kilns, 2; charcoal burners, 1; smelters, 2; sampling works, 1; reduction works, 1. Estimated value of anuual output of manufactories, not including smelters, $450,000. Throughout the county the coal deposits are numerous and vast in extent, and nine companies are in operation developing the properties, supplying the railroads and industries of all south-western Colorado, and also shipping to other markets. Total output in tons, for 1891, 125,000 tons; 1892, 225,000 tons. Average price per ton, delivered, $2.50 to $3; number of men employed, 200. Immense deposits of iron ores exist in different parts of the county. General character, red hematite, spathic, bog, magnetic, etc. There iron exists close by abundance of coking coals. Five quarries are in operation upon large deposits of white, red and and purple sandstone, and also fossil lime and marble. These quarries are located at and near Durango, in the Animas valley. The county contains great deposits of commercial and manufactural

minerals, not yet developed. La Plata county possesses many sanitary advantages in its healthful climate and splendid mineral springs, cold and thermal. These springs are the Trimble Hot Springs, Pinkerton Hot Springs (sulphur and iron), Sackett's Springs (cold soda), La Plata Springs (soda and sulphur), Durango Bath Springs. All except the La Plata are located in the Animas valley, from Durango to fourteen miles above, and some of them become fine health and pleasure resorts. With all the advantages of natural resource enumerated, and with all its advantages of a high order of social life, La Plata county offers extraordinary inducements to the artisan and the laborer, to the home-seeker, the health-seeker and the capitalist.

Larimer.

Larimer is one of the oldest and richest of the northern tier of counties. With an area of 4,500 square miles, it embraces a domain of grazing, as well as agricultural lands, and contains large deposits of mineral and building stone, thus combining a variety of industries, either one of which is sufficient to make it wealthy. The western half belongs to the mountains, embracing the great North Park, which contains the finest grazing lands in the world. It is therefore a producer of sheep and cattle for the most part, while in agriculture its crops are principally the grasses and potatoes. The eastern half comprises the plains and the valleys of the numerous streams by which it is amply watered, and it is a land rich in agriculture and live-stock, overspread with homes, towns and villages, fields, orchards and gardens. The Cache le Poudre and the Big and Little Thompson, with their numerous tributaries, water the lands, and some of the largest crops in the State are produced. Upon the north of the county is the State of Wyoming; east, Weld county; south, Boulder and Grand, and west, Routt county. Fort Collins, the principal city, is the county seat. Crossing it from north to south is the Medicine Bow range of mountains, the highest peaks of which rise 14,000 feet above sea level. The population is 8,108, of which Fort Collins has 2,500. Other towns are Loveland, Berthoud and Walden. The county was organized in 1861, from original Territory, and named in honor of Gen. James Larimer, who became governor of Kansas in the early days. Two years after its organization the valuation was $6,000; in 1879, it was $1,724,820, and last year the valuation had grown to $5,136,480, assessed, or a real valuation of $15,000,000. There are fifty-eight public schools in the county, not including the Agricultural College, an institute well known throughout the Western country for its usefulness in promoting the agricultural interests of the West. In Larimer the school census is 2,800 and the property valuation $8,400. There are also large church organizations, Methodist, Presbyterian, United Brethren, Episcopalian, Baptist, Catholic, Christian and Unitarian. In Larimer county there are about 150,000 acres of land available for agriculture; and about 2,000,000 acres grazing; the aggregate public land is estimated

at 2,000,000 acres, including mountain and park lands. Upon the mountains and along the streams there are large sections covered with timber principally pine, cedar, spruce and the cottonwood and the timbering output is large and finds ready sale at local points. A sufficient amount of development has been done to demonstrate beyond doubt that there are rich gold and silver and copper mines in Larimer county. Extensive coal veins have been found in North Park, but are yet undeveloped. Gypsum and lime are also found in great quantities. Larimer county is one of the largest producers of building stone in the State. A large number of quarries are now in operation, with an output of 15,000 car loads per annum. The qualities of stone are the white, grey and red sandstone and also granite. There are also large deposits of tinted grey and mottled marble. There are 312 miles of irrigating canals and 88 miles of railroads operated by the Union Pacific company. For picturesqueness and variety of scenery, Larimer county is unsurpassed. The value of the manufactures aggregate about $1,000,000 per annum. A large portion of this was flour, which has a high reputation through the eastern markets. Whilst in some counties the grazing interests are on the wane, Larimer maintains its position as one of the chief stock-raising sections. This year there are 60,000 head of cattle on the feeding grounds; 20,000 horses, 18,000 sheep, with a wool-clip of 75,000 pounds. The acreage of grain this year is very large. Apples produced last year, 10,000 bushels. In all particulars where agriculture is concerned, Larimer county takes rank as a successful section for the farmer. The product is unsurpassed and the markets are always active. While possessing great material resource, the most remunerative industries are those pertaining to the farm and live-stock industries, which include extensive breeding of fine and fancy cattle and horses; numerous dairy establishments and the extensive cultivation of fruits of all kinds. Of the cereals, wheat is the great product while alfalfa and potatoes form enormous crops.

Las Animas.

Las Animas county, in its present stage of development, bespeaks a future of great industry and fortune which is only waiting population, capital and labor. Las Animas county is situated in southeastern Colorado, the Territory of New Mexico being its southern boundary. The west half of the county comprises foot-hills and mountains; the eastern half is prairie. In the prairie portion the valleys are cultivated under irrigation; in the mountain portion are numerous farms where crops are raised without irrigation. Throughout the western portion the industries are divided between coal mining, coke burning, farming, quarrying and the lumber business, the mountains being covered with forests of pine, cedar, piñon, hemlock, and scrub oak. Gold, silver, iron, and traces of copper are also found but as yet with little development. The county has an area of 4,032 square miles, with an elevation of 4,000 feet on the plains and rising

to 13,000 feet in the mountains. The county has a population estimated at 20,000. The City of Trinidad, situated in the midst of the great Raton coal fields, is the county seat, with a population of about 9,000. Other towns in the county are El Moro, 400; Starkville, 1,500; Engleville, 1,500; Sopris, 1,500; Victor, 15, Gray Creek Mines, 250; Forbes Mines, 1,000; Aquilar, 500; Road Cañon Mines, 800, nearly all these settlements having been made at or near the coal mines, the population being engaged principally in mining, farming and stock raising.

The county is watered by the Purgatoire river and Apishapa, Trinchera, San Francisco, Gray, Raton and Chicosa creeks. The valleys of these streams comprise the principal agricultural lands of the county available by irrigation. There are eleven irrigating canals and ditches in the county affording sufficient water for 51,562 acres, and there are now 35,000 acres cultivated under ditch. The soil is a black leaf mold in the mountains, a sandy loam and clay on the plains, and adobe in the bottoms.

The county was formed from unorganized territory in 1866, having at that time a very small population, and a valuation of only $100,000, on account of a lack of development. The assessed valuation for 1892 was $4,000,000; estimated real valuation, $12,000,000. The county has a bonded debt of $250,000, at 2 per cent..

The permanent stability of the county is assured in its vast reserve of material resource. Its wealth in coal alone is sufficient for a large population. One of the greatest advantages is that of railway facilities. The Denver and Rio Grande, the Atchison, Topeka and Santa Fé, and Denver, Texas and Fort Worth railways cross the county, reaching Trinidad, giving an outlet to the Pacific Coast, the Gulf of Mexico, and communicating with all parts of Colorado and the West. The county is well provided with educational facilities and religious advantages.

The entire area of unentered Government land is classed as grazing land. The greater part of this land is the open prairie, comprising nearly all the eastern half of the State, being for the most part beyond the reach of irrigation. It becomes a great range for cattle and sheep, and gives to Las Animas great advantages in the live-stock industry. The remainder of the lands are distributed as follows: Total acres available for agriculture, 210,000; total acres land under ditch, 52,000; total acres cultivated under ditch, 35,000; total acres unoccupied available land under ditch with available water, 17,000; total acres unoccupied Government land available for agriculture mountain lands, 75,000; of lands under reservoirs, on prairie, estimated, 80,000. The soil is productive of all the cereals, grasses and vegetables, and some fruits are grown. The most profitable crops in their order are alfalfa and potatoes.

Number of cattle in county, 40,000; dairy cows, 1,000; horses, 10,000; asses, 700; mules, 500; sheep, 75,000; swine, 1,000. It will be seen that cattle and sheep form a large part of the industry of the people. The sheep are bred up from the New Mexican natives to seven-

eights grade by thoroughbred Merino rams, and the annual wool clip aggregates 500,000 pounds, having a value of from 15 to 19 cents. The dairy cows belong to the farms. Product of butter, 50,000 pounds; price, 30 cents per pound. Alfalfa, plentiful grazing on native grasses and a mild southern climate give superior advantages for dairying. Profit per season for butter, common cows, $35.

Most of the manufactures are located in Trinidad. Establishments in county: one rolling mill, one foundry, two smelters, three flour mills, one planing mill, four stone quarries, five saw-mills, one cement plant. Capital invested, $300,000; value of annual output, $250,000. There are ten coal mines in operation, and the population at these ten camps aggregates 8,650 souls. Average wages paid miners, 50 cents per ton. The mines are easily worked, the veins being 4½ to 15 feet thick. Amount of capital engaged in coal mining, $7,845,000. Average cost for mining per ton, 80 cents.

Great bodies of fine sandstone exist in the county, and four quarries adjacent to Trinidad are in operation. This stone is shipped for building purposes to the northern counties of Texas, and through the State as far northward as Denver.

Coking is a large industry at Trinidad, as statistics show: number of ovens, 650; number of men employed, 700; capital invested, $390,000; output in tons, 1892, 201,177. The markets for the coke are the smelters of Colorado and adjacent territory. Manufactural and commercial minerals are plentifully deposited in the county.

Although the county shows remarkable development, a great future yet awaits it. The manufactories most needed are woolen mills, tanneries, beef canning, glass works, brick yards, cotton mills and a number of other establishments that might be maintained to utilize the cheap fuel and abundant raw material.

Lincoln.

Lincoln is centrally located among the eastern tier of counties, possessing advantages exclusively for stock-raising and agriculture. It is one of the newly organized counties, being sparsely settled, and containing 1.500,000 acres of unoccupied Government, railroad and State lands for entry, lease and sale. The county was organized in 1889, and prior to that time was the home of the range cattle. It is now being gradually converted into agriculture, though with small development. Sheep-raising is one of the leading branches, and the most important in value of product. For the most part, the farmers depend upon the rain-fall for their crops, though there is sufficient water in the several small streams for considerable irrigation, and there are about 2,000 acres under ditch, and 1,500 acres cultivated by irrigation.

The county has an area of 2,592 square miles. Population 800, the settlements being made principally along the lines of the Rock Island and Union Pacific railways, which cross the county, the former from east to west, in the northern portion, the latter from south-east

to north-west. The elevation is 5,000 to 5,600 feet, and the land is mostly a high, level prairie, cut sufficiently by streams for good drainage. Hugo is the county seat, and the other villages located on the railways are Arriba, Bovina, Limon, Mirage, Creech, Boero and Lake. The county has no debt, and the rate of taxation is only 16 mills for all purposes. Assessed valuation, $1,675,266. Total acres of land available, 1,327,104; total acres available for pasture, 331,776; total acres land under ditch, 2,000; total acres cultivated under ditch, 1,500; total acres unocupied Government land available for agriculture, 1,000,000; total acres unsold State land available for agriculture, 500,000. Price of lands, Government, $1.25 per acre; railroad, $3.50 to $15.50, ten years time; State lands for lease. The soil is a dark, sandy loam, productive of the cereals, grasses, vegeables, etc. Estimated average yield per acre for leading products: wheat, bushels, 18; oats, 35; corn, 35; barley, 30. rye, 18; buckwheat, 20; alfalfa, tons, 5; timothy, 2; native grasses, 2; millet, 2; sorghum, 4; broom corn, 3; potatoes, 5.

In common with other sections of the plains, where the range is wide and covered with nutritious grass, affording good grazing almost all the year round, the advantages are excellent in Lincoln county for raising blooded horses and fine and fancy cattle, sheep, etc. Estimated number of horses in county, 691; cattle, 5,757; dairy cows, 500; swine, 30; sheep, 73,350. Estimated annual clip in wool, 366,750 pounds. Average price per pound, 14 to 16 cents. The breed of sheep is from one-half to three-fourths blooded Merino, and the manufactural standing of the wool is good.

Whatever disadvantages and privations there may be in the early stages of a settlement, it is urged as one of the strongest persuasive arguments that a man may at once install himself in a home with 160 acres by homestead entry at trifling cost, and from the start reap greater profits than are known on the best farms of Eastern States. If the immigrant prefer he can lease the State lands at a cost of $8 per year for 160 acres, and be paid for all improvements made at the end of his term. Among the special advantages claimed for the county as being attractive and satisfying to the immigrant, are: Pure air and bountiful sunshine, mild winters, clear, cold and soft water, no malaria, cool nights for sleeping and comfortable days for recreation and labor. As to benefits of the climate, it is claimed to be a sure cure for asthma and highly beneficial to people afflicted with lung or chest diseases. The county is amply provided with schools and churches and the social condition of the community is good.

Logan.

Logan is an agricultural and stock raising county, situated in north-eastern Colorado, western Nebraska being its northern boundary line. Its location is in every way favorable for commerce and industry. While it may be included in the tier of eastern counties dependent upon the rain-fall for farming, the South Platte river runs cen-

trally through the county from south-west to north-east, and from this stream ten irrigating canals, with 113 miles in the county, afford water for 76,100 acres, and 35,000 acres are now actually under cultivation under ditch, with 35,000 acres more of rich land under ditch unoccupied and open for settlement. One of the supreme advantages of Logan county is that farming can be successfully carried on with or without irrigation, while there is plenty of water and a great abundance of grass for stock. The raising of cattle for the markets is the leading feature of the live-stock industry. The Union Pacific railway follows the Platte river in its diagonal course through the county and is crossed at Sterling by the Colorado and Wyoming railway, which also passes nearly centrally through the county east and west, thus affording easy and ample transportation facilities for the products of the farm and range. The county has an area of 1,830 square miles. Elevation, 3,920 feet. For the most part its area is undulating plains, the streams being the South Platte river, Pawnee, Cedar and Frenchman creeks. Sterling is the county seat, with a population of 1,200. Other towns and villages are Fleming, Atwood, Merino, Iliff, Crook and LeRoy.

Assessed valuation of county, $1,706,093; real valuation, 5,118,279; county debt, 30,000; rate of taxation, 28 mills; increase of valuation since organization, land 33 per cent; increase valuation town property, 25 per cent; total acres of land available for agriculture, 976,680; total acres available for pasture, 194,320; total acres of land under ditch, 76,100; total acres of land cultivated under ditch, 35,000; total acres of unoccupied land under ditch with available water, 35,000; total acres of unoccupied Government land available for agriculture, 839,673; total number acres unsold State land available for agriculture, 40,000; average price per acre for all land, $3. The soil is a sandy loam. Wheat is the leading product and all the cereals, grasses, vegetables and fruits can be grown that are grown anywhere in a similar latitude. Estimated average yield per acre for leading crops: wheat, bushels, 20; oats, 40; corn, 30; alfalfa, tons, 4; native grasses, tons, 1½. The estimated total value of leading products for 1892, was $313,562. The first settlers farmed only under ditch, but of late years, in the Frenchman valley and on the uplands, crops of all kinds have been successfully raised without irrigation. In Logan county, as in all the rest of the arid region where the seasonable rain-fall is sufficient, deep ploughing is the main secret of success. The growth of population and industry is of a steady, permanent character. A cheese factory and a flouring mill have been established at Sterling, and an elevator near the east line of the county.

Estimated number of live-stock in county: Cattle, 30,000; horses, 2,949; mules, 95; asses, 2; dairy cows, 750; sheep, 16,000; swine, 1,000. Logan county has many advantages for the horse, many herds living the year round without other care or shelter than nature affords. Blooded horses do extremely well, as the climate is very healthful. The advantages for raising fine and fancy cattle, sheep,

hogs, poultry, etc., are very good. This part of Colorado was formerly the home of the range herds of cattle, the animals living through all seasons of the year without other sustenance than prairie grass. In the matters of climate and good pasture the county throughout is especially well adapted to raising sheep for wool. Estimated annual clip, 100,000 pounds; average price, 15 cents per pound. The breed of sheep most successfully grown are the Shropshire and Merino grades. The manufactural standing of the wool is regarded as good, being fine, long, staple wool. The dairy is an industry of growing importance.

The educational and religious advantages of Logan county will compare favorably with any county in the State. Churches are numerous and there are 44 schools for a school population of 917.

In addition to the numerous advantages presented for the home-seeker, the health-seeker and the capitalist, there are thousands of acres of choice Government land subject to the homestead entry; thousands of acres of deeded lands that can be bought at from $4 to $6 per acre; plenty of lands under good irrigating ditches that can be bought with water at from $15 to $30 per acre. In all respects, its an inviting field for the immigrant-farmer contemplating a location in the West.

Mesa.

Mesa county has been famous as the representative fruit growing section of Western Colorado. It embraces the fertile valleys of the Grand, Gunnison and Plateau rivers in their outflow from the State into Eastern Utah. It possesses a combination of large resources in such materials as the precious metals, stone, coal and the manufactural minerals, all being as yet undeveloped, except coal, which is the basis of an important productive industry. Fruit growing, general agriculture and the live stock business are the chief industries. Fruit growing becomes the leading interest, and the valley of the Grand is the region where such development has been made within the ten years of its settlement that it has won fame as the great fruit country of Colorado. Its true greatness, however, will come a few years later with the results of present development. Mesa, together with Delta, Montrose and Garfield counties, prior to 1881, embraced a large portion of tha Ute Indian reservation. The Indians being removed in 1882, white settlement immediately began in the valley, the people first turning their attention to stock growing and general agriculture, and fruit tree planting as an industry did not begin until 1886. Marvelous results have followed this brief period of time. In 1883 the county was divided into separate counties, and Mesa made its organization with a population of 500. It now has a population of 7,000, the thriving city of Grand Junction, the metropolis of western Colorado, having a population of 3,500; De Beque, 200; Fruita, 250; Cleveland, 100. The county contains an area of 3,400 square miles and has an altitude of 4,500 feet. Its topography comprises broad valleys, high mesas or table lands, broken by hills and sloping spurs of the moun-

tain ranges. The valleys are everywhere rich in soil and the mesas are highly productive of all crops wherever water can be applied. The high mesas and hills are covered with spruce, piñon and cedar forests. Assessed valuation, $2,303,000; real valuation, $7,000,000; county debt, $79,000; rate of taxation, State, county and school, 40 mills.

Total acres land available for agriculture, 225,000; total acres available for pasture, 900,000; total acres land under ditch, 90,000; total acres land cultivated under ditch, 25,000; total acres unoccupied available land under ditch with available water, 65,000; total acres of unoccupied Government land available for agriculture, 50,000; average price of deeded land per acre, with water, $35. The soil varies in character, being red, sandy, adobe mixed, and sandy loam. The best land being cultivated, the yields are in some instances enormously high. Under the difficulty of estimating an average for the county, the range of production is reported as follows: Wheat, bushels per acre, 25 to 60; oats, 25 to 100; corn, 20 to 50; barley, 20 to 50; rye, 20 to 50; alfalfa, 4 to 6 tons; clover, 2; timothy, 2 to 3; native grasses, 1 to 2; potatoes, 5 to 15 tons; sugar beets, tons, 20 to 25. Average ruling prices at nearest markets—Wheat, per 100 pounds, $1.00; oats, $1.05; corn, $1.25; barley, $1.00; rye, $1.00; alfalfa, per ton, $10; clover, per ton, $15; timothy, per ton, $15; potatoes (Irish), $1.40 per cwt.; sweet, $4 00; sugar beets, per ton, $5.00; cabbage, per ton, $30.

The fruit crop of 1892 is estimated as follows: Apples, bushels, 2,500; peaches, 6,000; plums, 500; pears, 200; apricots, 100; prunes, 100; grapes, pounds, 32,000; blackberries, quarts, 1,500; raspberries, 12,000; gooseberries, 11,000; currants, 3,000; strawberries, 53,000.

The above figures, given as the total product in fruit represent an area of only 800 acres producing. This includes a large proportion of the orchards where the trees have just come into bearing, all trees being young and none of them having reached more than half their capacity. Many thousands of acres have been planted in orchards and vineyards representing all kinds of fruits in innumerable varieties, and each year in future will mark a large increase in production. It is the superior quality of fruit and the enormous yields that have been attained from the young trees that gives to this section its deserved notoriety as a fruit producer. The Grand valley peach is far superior to the California product, while all varieties of grapes grow luxuriously and most prolific, many of the choice California varieties growing as superbly as they do in their native climate. In fact all the fruits grow to rich perfection in that section. They bring the highest prices paid for fruit in the United States, and are consumed almost entirely in the local markets and surrounding mining camps. With greatly increased production a few years hence, aided by the fruit-growing counties of the eastern side, the two great fruit sections will supply all the State with the best fruit that ever ripened on the American continent. It is estimated that 1,500,000 trees have

been planted in Grand valley. Over 300 miles of irrigating canals have been constructed, with about 50 miles of large ditches in operation, while hundreds of farmers have small ditches for from two to ten farms each. Average cost of farm labor $20 to $30 per month and board.

The Denver and Rio Grande, the Little Book Cliff, the Denver and Rio Grande Western and the Colorado Midland railways, the latter forming a junction with the Denver and Rio Grande Western at Grand Junction, traverse the county, having an aggregate trackage of 204 miles, giving direct communication with Denver and Salt Lake City. The live stock interest is especially important in Mesa county, as it is throughout Western Colorado. Mesa county is especially well adapted to horses, cattle and sheep. Estimated number in county: Horses, 4,500; cattle, 30,000; mules, 125; asses, 60; dairy cows, 200; sheep, 25,000. Coal mining will in time become an important industry. Two large mines are in operation within twelve miles of Grand Junction. Coking coal is abundant, and a start in coke manufacture has been made. In addition to the delightful climate, everywhere prevalent in this portion of Western Colorado, Mesa county possesses two places of health and pleasure resort. Mesa lakes, a fine summer resort, altitude 11,000 feet, and Polen Mineral Springs, twelve miles north-east of Grand Junction, on the Little Book Cliff railroad. As one of the inducements offered to settlement in Mesa county, the conditions of climate are so favorable that the farmers plow every month in the year. The country is rich in resource. The land is highly productive of all manner of crops, labor receives large rewards, and the products of the soil at all times command high prices, having ready sale.

Mineral.

Among the last acts of the Legislature in March this year (1893), was the passage of a bill forming Mineral county. The territory embraced in the new county was taken from Hinsdale, Rio Grande and Saguache counties. As its name suggests, it is a mining region —the very heart of the silvery San Juan. More in keeping with the purposes of its creation it might have been named the county of Creede, inasmuch as it was formed for the express purpose of embracing the new but rich and famous silver mining district and town of Creede in order that the residents of that section might enjoy the legal, commercial and social advantages possessed by all other populous and prosperous communities in Colorado. The new county in the beginning of its industrial and social organization embraces little else than mountains, mines, mining camps and the magical town of Creede. But this is sufficient. It is a mining district of immense riches and incalculable possibilities. Creede has in a twelve-month become the rival of Leadville as a silver producer and bears the same relation to the mining districts of the new county as Leadville bears to Lake. Creede will in the near future become noted as one of the most pecu-

liarly attractive and romantic townsites in Colorado, flanked on all sides by high mountains whose rugged summits, reaching near the drifting clouds, present an ever changeful view, and above all their fascinating charms giving the comforting assurance that they contain treasure for the maintenance of generations to come. Statistics of the mineral production for the past six months show that this new field of discovery is one of the richest and most promising in the State, and even in its primary stage of development having no superior as a producer of wealth.

Montezuma.

An area of 2,128 square miles in the south-west corner of Colorado, adjoining Utah, Arizona and New Mexico, comprises the county of Montezuma, a section of the country peculiarly rich in its combination of material resource. It is one of the new counties, organized in 1889, and thus far in its development it is chiefly valuable for agriculture, though it contains great riches in coal and iron, building stone, timber and the precious metals. The county, in its general physical features, comprises mountains and undulating plains. About 650,000 acres are tillable, with rich soil, the remaining 763,170 acres being mineral, timber and grazing lands. Of this vast territory, only about 180,000 acres have been taken up. The principal rivers of Montezuma county are the San Juan river, the Mancos and the Dolores river. These streams, with their numerous tributaries, afford an abundant water supply to all portions of the county, and the valleys possess a deep, rich, alluvial soil, highly productive of the cereals, grasses, fruits, melons, and in fact all manner of crops possible in the temperate zone. The county has the advantage of a southern climate, and experiments prove that tobacco-growing could be made profitable. The seasons are especially favorable to fruit growing. The average elevation of agricultural lands is about 5,000 feet. The principal towns are Cortez, the county seat, situated in the geographical center, Mancos and Dolores. Total population of county, 2,800.

Assessed valuation of county, $842,877; real valuation, $2,528,631; county debt, $46,000. Rate of taxation, 35 2-5 mills.

Total acres available for agriculture, 650,000; available for pasture, 30,000; total acres under ditch, 150,000; total acres cultivated under ditch, 15,000; total acres unoccupied available land under ditch, with available water supply, 50,000; total acres unsold State lands available for agriculture, 7,000; average price of land per acre, $2.50. Estimated average yield per acre for leading products: Wheat, bushels, 25; oats, bushels, 40; corn, bushels, 45; barley, bushels, 30; rye, bushels, 20; alfalfa, tons, 5; clover, tons, 2; timothy, tons, 2; red top, tons, 2; native grasses; tons, 1½; potatoes, tons, 6; estimated value of leading products in 1892, $277,000. The apparently high averages per acre are justified in the fact that these farms are selected in rich valleys where a much higher production is attained, and with a general cultivation doubtless the high averages will be fully maintained

for the entire county, for this is a section where enormous yields are made. For instance, on one ranch near Cortez four acres yielded 129½ bushels of oats to the acre. Other yields per acre have run as follows: Wheat, 56 bushels; potatoes, 10 tons; watermelons, 80 pounds, and corn, 50 bushels. In the matter of irrigation considerable progress has been made, and about 200 miles of irrigating canals have been constructed bringing 150,000 acres under ditch and irrigating 10,000 acres. Average cost of water per acre per season, $1.50. Average cost of labor per month on farm, $30 and board. The county offers every advantage of climate and good grazing all the year round for the live stock industry.

Thus far there is no development of consequence in mines, or the coal veins, or the quarries, and these resources will remain for the population of the future. For pleasure seekers and seekers after the curious in archæology and geology, Montezuma county is an inviting field. Here once lived a race of people whose identity is unknown, versed in the arts and sciences of their day, who tilled the soil, built substantial dwelling places, places of worship and fortifications for defense. The relics and ruins of these people are found throughout the county.

Montrose.

Eleven years ago Montrose county formed a part of the Uncompahgre Ute Indian reservation. The first permanent white settlements were made there in 1882, and now it is the scene of farms, orchards, cattle ranges, towns, villages and country homes, surrounded with all the comforts and conveniences of civilization. It contains an area of 1,300 square miles, bounded on the east by Gunnison county, on the west by Utah, on the south by San Miguel, and on the north by Delta and Mesa counties, becoming one of the three leading fruit producing counties of the "Western Slope." About two-fifths of the area is rich cultivable land, two-fifths is timbered and also good grazing land, and about one-fifth is waste; that is it consists of inaccessible cañons and rocks, the latter embracing large deposits of coal. The timber lands are covered with cedar, piñon and yellow pine. The agricultural lands are watered by the Uncompahgre and San Miguel rivers, flowing north-west and the Gunnison river flowing through the eastern portion. The agricultural lands, embracing an area of 500,000 acres, for the most part, contain broad, beautiful valleys and the lower mesas, possessing great richness of soil, of variable character, and highly productive of fruits and all manner of farm products and garden vegetables. It is properly classed among the rich fruit producers of Western Colorado, yet having its greater adaptation to general agriculture and the live-stock industry, wherein the cattle range and the wool interests engage a large share of the attention and the efforts of the people. The county also possesses large deposits of coal, both of the bituminous and anthracite varieties that are yet undeveloped. In 1880 there was only one white resident in the

county—the Indian agent. To-day the population is 4,500, mostly engaged in agricultural pursuits. The first attempts at agriculture were made with small gardens in 1882. To-day more than 80,000 acres are cultivated. The value of improved farm lands have increased from nothing in 1882, to an average of $35 per acre. The town site of Montrose, the county seat, was established in December, 1881, and the city now has a population of 2,000. Assessed valuation of county, $2,153,693; estimated real valuation, $6,000,000; county debt, $157,635; rate of taxation, county 19½ mills, State, 4 mills; number of schools, 23; school population, 1,118; number of teachers, 30; average wages paid teachers, $56. Total acres of land available for agriculture, 500,000; total acres under ditch, 80,000; uncultivated patented land, 200,000; acres of unoccupied Government land, 400,000. The soil is an admixture of adobe, red cedar and sandy loam. The leading products are wheat, oats, alfalfa and fruit, the latter including all kinds of fruits that can be grown in the temperate zone, the apple and the pear in their many varieties taking precedence because of their exceeding fine growth and plentiful production. All field products are successfully grown. The estimated average yield per acre is as follows: Wheat, bushels, 21; oats, 36; corn, 40; alfalfa, tons, 4; timothy, 4; potatoes, 4.

In its abundance of luxurious grass, pure water and the natural protection afforded by the hills and valleys, Montrose county offers many superior advantages to the stock-raiser, especially to the cattleman. It is especially well adapted to sheep. The high mesas produce an abundance of yellow-stem grasses, with plenty of clear spring water, making the most desirable horse range. Horses raised on these high grounds develop enormous lung expansion, and great endurance. The gramma grass and native red top can not be excelled for cattle and sheep. The winters are so short and mild, that very little feeding is required. Hogs thrive on alfalfa as well as corn. The dry climate and absence of dew are very advantageous also to poultry raising. Estimated number of live-stock in county: Cattle, 45,000; dairy cows, 400; horses, 5,000; mules, 175; asses, 322; sheep, 28,000; swine, 1,200. The wool clip for 1892 was 155,000 pounds. Average price, 15 cents per pound.

The orchard and vineyard have become the source of home supply, and also of a revenue for the surplus, the product being most luxurious, and embracing all manner of deciduous and small fruits. Cheap coal, ample railway facilities and close proximity to mining camps, renders Montrose an eligible position for the smelting business.

There are no distinctive health resorts, but the City of Montrose possesses a mineral well, with bath house connected, that is extensively resorted to for the cure of rheumatism and various other ills. The water is highly mineralized, and is used both hot and cold.

For the home-seeker, the climate of Montrose county is most desirable. The soil is rich and productive, the society is first-class.

Excellent schools well sustained, good, substantial churches; population increasing, property of all kinds to be had at reasonable prices, and a generous welcome extended to all enterprising, progressive settlers.

Morgan.

This is distinctively an agricultural county, having also great advantages for the live-stock industry. In name and geographical lines it is only four years old, but in settlement it is one of the oldest sections of the State. It was formerly a part of Weld, one of the pioneer counties of Colorado. It is located on the South Platte river, Fort Morgan, the county seat, being situated in the center, and 78 miles north-east of Denver. Morgan county embraces ground of historic interest. Fort Morgan, in the days before white settlement, was a stage station, called Camp Tyler, afterward changed to Camp Wardell, and in 1886, christened Fort Morgan in honor of Colonel Christopher Morgan, Aid-de-Camp U. S. Volunteers. It was a prominent trading point on the old stage route to California and Pike's Peak, and occupied by U. S. cavalry until 1870. The county was organized in 1889. It forms a perfect square, embracing an area of 1,296 miles, and having an elevation of 3,000 feet. The entire county is a level prairie, except as it is broken by the valleys of the several streams. Its chief water supply is the South Platte river, which brings a large area under cultivation by irrigation. The entire area is of fertile soil, and offers a field of great opportunity to the future farming population. At present it is in great part the rich domain of the stock grower, whose herds of horses, cattle and sheep are scattered over the grassy ranges. Since the first settlement the county has changed from an exclusively grazing and stock growing county to a first-class agricultural county, there being a combination of the two branches. In the farming settlements land has increased in average value from $5 to $25, while town property has increased 75 per cent., all due to agricultural development. To the same cause is due the establishment of all towns and railway stations, the county being crossed by the Burlington and Missouri and the Union Pacific railways, which follow the fertile valley of the Platte from west to east. The principal towns are Fort Morgan, population, 600; Brush, 250; Corona, 100; Orchard, 100; Snyder, 50. Assessed valuation of county, $1,300,000; estimated real valuation, $3,900,000; no county debt; rate of taxation, 10 mills.

The soil is a black, sandy loam. Potatoes form the leading crop, but all cereals, grasses and vegetables are successfully grown, with a large average yield. Total acres of land available for agriculture, 420,000; total acres land available for pasture, 406,440; total acres land under ditch, 218,960; total acres cultivated under ditch, 74,511; total acres of unoccupied available land under ditch, with available water, 86,420; total acres unoccupied Government land available for agriculture, 108,960; total number acres unsold State land available

for agriculture, 34,560. Average price per acre, $5. Total number of irrigating canals in county, 12; aggregate length in miles, 186½; average area irrigated under each ditch, one-third; average number of acres unoccupied under each ditch, five-eights.

The number of acres classed as available for agriculture does not necessarily imply cultivation exclusively by irrigation. This part of the State is visited by frequent seasonable rains, which in a measure lessens the requirement for irrigation, and thus far, whenever attempted, crops have been successfully raised without irrigation. But this method of farming has not been extensively adopted, because the irrigation facilities are adequate for the greater part of present population. The country for the most part, lying beyond the reach of irrigating canals, is devoted to the live-stock interests, which affords a livelihood and considerable revenue to a large proportion of the population.

Farms in the valleys have yielded an average per acre, wheat, bushels, 28; oats, 45; corn, 35; barley, 42; alfalfa, tons, 5. Number of cattle in county, 14,074; dairy cows, 600; horses, 2,964; mules, 75; sheep, 42,239; swine, 200.

Fine horse-breeding has been followed quite extensively, and with success, by the recent introduction of Percheron, Norman, Clydesdale and Gold Dust horses, and the French Coach. Several companies have been organized to breed these blooded horses, and they are now shipping horses to Chicago, Philadelphia, Boston and Denver markets. The county possesses all the advantages for fine and fancy cattle, hogs, etc., and the sheep industry is especially profitable. Prevalent breeds of sheep, Merino and Shropshire, and the wool is noted as first-grade. Wool clip for 1892, 231,850 pounds; price, 16 cents per pound. This being a great alfalfa county, it is well adapted to bee culture. Annual product of honey, about 12,500 pounds. Experiments in small-fruit raising have proved successful. The vital statistics of Morgan county abundantly prove the healthfulness of its climate. Mortality, one-half of one per cent. per annum since organization. The large amount of unoccupied land under ditch, the large area to be developed under proposed new systems of canals, and the advantages for stock-raising, offer the best inducements for the home-seeker and the capitalist. Mills, manufactories, tanneries, and all branches of business that go with a first-class agricultural and stock-raising country are the enterprises most needed.

Otero.

Otero county comprises an important part of the rich agricultural country in the Arkansas valley, and is one of the most promising fields of industry in the State. Otero is one of the new counties organized in 1889, and taken from the western portion of Bent, the old pioneer range cattle county of the State. Until this division occurred, Bent and Pueblo counties embraced all of the Arkansas

valley on the plains, and this section of country was known as the great rendezvous of the herds and the herdsmen, and constituted the great highway of travel from the land of distant civilization through the wilds of border life. Thus until recent date that position of Colorado was peculiarly associated with the perils of the pioneer pilgrim, and has recorded many stories of wild Western adventure. Even within the brief period of ten years, all things have been changed. Ten years ago this country was the domain of the cattlemen, and the possibilities of agriculture were unknown, and though its advantages for the live-stock business have been greatly enhanced, it has become one of the richest sections of the State for the farm, the garden and the orchard. Otero county has an area of 2,376 square miles; elevation, 4,200 feet; population, about 7,000. La Junta, the county seat, population, 3,500, situated at the junction of the Atchison, Topeka and Santa Fé's Colorado and Southern Pacific lines, and Rocky Ford, population 1,000. Situated on the Santa Fé main line, are the principal markets for the fine agricultural country surrounding. Other towns, Catlin, 100; Fowler, 50; Ordway, 30. The Arkansas river is the principal stream, coursing through the central portion and affording water for irrigation to large tracts of the most fertile land in the State. Other small streams are Tampas creek, Purgatoire and Apishapa creeks. Assessed valuation of county, $2,620,295; real valuation, 5,240,590; county debt, $24,000; rate of taxation, 26 mills.

Total acreage of land available for agriculture, 528,930; total acres available for pasture, 991,710; total acres land under ditch, 528,930; total acres unoccupied Government land available for agriculture, 991,710; total acres unsold State land available for agriculture, 90,000; average price per acre, $2.50.

The soil is a sandy loam, everywhere throughout the valley in this as well as other counties in the same stretch of country, deep, rich and wonderfully productive. Alfalfa is at present regarded as the leading crop, because it is more generally cultivated, but with an average yield per acre in all the cereals, which is above that of the State, every cereal, root crop or grass are profitably grown, while the soil and climate are so perfectly adapted to all kinds of fruits that all the available land of the county, and for that matter all the watered lands of the Arkansas valley could be converted into orchards and vineyards laden with fruits in all their kinds and varieties. Otero county, for its part produces with abundant success, corn, wheat, oats, rye, alfalfa and the grasses. In fact everything that can be grown in the temperate zone can be cultivated in the Arkansas valley. At the United States Experimental Station, situated at Rocky Ford, both cotton and tobacco have been grown to perfection. Throughout the county, but more particularly confined to the valley lands, around Rocky Ford and other centers of settlement, the Rocky Ford watermelon and canteloupe are products of most wonderful prolific growth. Throughout the west, and even in the eastern cities, the Rocky Ford watermelon has become famous and familiar, and Otero

county in this respect occupies the same relation to the West that the State of Georgia holds for the fame of the Georgia watermelon in the east and south. Its cultivation has become a leading industry and a source of large revenue. The average yield of leading products in the county are estimated at: Wheat, bushels, per acre, 26; oats, 40; corn, 40; alfalfa, tons, 5.

Otero is also a county of considerable material resource, having gypsum, lime, silica, sandstone, limestone and coal, these resources as yet having but little development. As a part of the general industries, flouring mills, canning factories and creameries have been established at La Junta and Rocky Ford, and the dairy business is an important feature of the farm. The county offers splendid advantages for cattle and stock-raising, both for pasture on the range and for fine breeding and good keeping on the farm. The county is everywhere beautiful for a home, while the towns are pleasant places, of a thrifty population, and everywhere inviting to the home-seeker. The schools are in excellent condition, the churches represent all religious denominations. The people are united in their respective labors for the upbuilding of the county; the climate is mild and healthful, and a choice of all the industries pertaining to a rich agricultural country are offered to the home-seeking immigrant or the capitalist desiring to invest in industrial enterprises.

Ouray.

This is one of the most famous mining counties in the great San Juan country, so noted for its riches in gold and silver. Its name was bestowed in honor of Chief Ouray, of the Utes, whose removal from the State in 1882 left the white settler in possession of the county. It is distinctively a mining county, rich in production and rich in prospect. It was settled by adventurous miners in times when the hostile red man reigned supreme, and was organized in 1876, when Colorado became a State. From the years of its first settlement by white men, its history has been that of steady and substantial development. The first discoveries were made in 1875, but the difficulties of access to the mines with proper machinery, and the impossibility of transportation, except for small quantities of the more valuable ores, for many years retarded both the exploration and development of the richest properties.

By the introduction of railways, the best of machinery and a number of stamp mills, reduction works and smelters, the mines have been made to yield their treasures by the millions and there has been an advancement all along the line of general industries. Ouray is the county seat, a flourishing town dependent upon the mining industry for support The principal streams are the Uncompahgre river and Cañon, Red Mountain, Bear, Oak and Dallas creeks, Crow creek and the Dallas Fork of the Uncompahgre river. All over the county there is timber, forests of yellow pine, spruce, balsam and

quaking asp. The surface of the county generally is mountainous. The general character of the mineral formation is gold and silver allied with the baser metals and is found in vertical fissure veins, in the rock known locally as trachyte, and is from 3,000 to 4,000 feet in thickness. The precious metals are also found in veins which cut through the sedimentary and metamorphic rock. The product includes gold, silver, lead, copper, iron and zinc, and the districts in which mining is done are Sneffels, Poughkeepsie, Red Mountain, Paquin, Sentinel, Almadi and Uncompahgre. Whilst mining is the chief occupation, some attention is paid to farming and live-stock. The soil is a sandy loam, the valleys affording excellent grazing ground. The county's area is only 450 square miles. Population, 6,800. Principal towns, Ouray, 2,900; Ridgway, 800; Ironton, 800; Red Mountain, 400; Virginius, 450. Elevation, 6,800 to 13,500 feet. Assessed valuation of county, $1,399,298, or about one-third of the real valuation of its property, exclusive of developed mines which form the great volume of the county's true wealth. The people of the county make very little pretension to agriculture, but there are about 26,000 acres of rich agricultural lands lying principally in ths Uncompahgre valley, which is settled by ranchmen and produces large crops of hay, some small grain and large quantities of vegetables. The farms now cultivated under ditch comprise 6,067 acres, which leaves about 20,000 acres open for occupation and tillage. The valleys possess the advantages of good pasture aud plenty of water for the animal industry and cattle raising, though as yet not extensive, could be made a profitable business. Crops raised on a small scale in these valley lands have averaged as follows: Wheat, 30 bushels per acre; oats, 50; barley, 30; rye, 30; alfalfa, 5 tons; native grasses, 2 to 3 tons; potatoes, 200 bushels.

The total number of live stock in the county is estimated as follows: Cattle, 3,177; horses, 1,812; mules, 165; sheep, 1,600; swine, 148. The soil and climate have been found to be well adapted to small fruits, and experiments with orchard fruits have recently proved successful. In the way of manufacturing and other industries, the City of Ouray has one brewery and bottling works, a grist mill, repair shops of the Rio Grande Southern Railway, two machine shops, carriage works, two wood working shops, one cabinet shop and several blacksmith shops. Among establishments most needed is an iron foundry to utilize the native material and furnish wares for home use.

Mining for the precious metals will always be Ouray's main source of wealth. The mountains on every hand are streaked and seamed with mineral, and with the progress of more thorough development in recent years the large increase in the production of gold gives every assurance of great fortune in the yellow metals yet to be discovered, while in the past two years enormous increases have been made in the yield of silver. For a period of ten years the mining industry had to contend with the most serious difficulties in the matter of transportation. But now the Denver and Rio Grande railway extends

from its Salt Lake line to the town of Ouray, the Silverton and Red Mountain has been built across the mountains and through the mining districts to Silverton, and the Rio Grande Southern, from Ouray to Durango is finished, and thus by three railway lines this great gold and silver district of the San Juan region is connected with the rest of the world, with outlets to the north and to the south. Ouray now has its own concentrators and steam jigs for lead ores, its own lixiviation works for the gray copper and chloride deposits, its own stamp mills for gold ores, and owners of low and medium grade properties have a market for their production which does not consume the bulk of their labor in railway and smelting charges. Since the revival of mining development by the advent of the railways, hundreds of new discoveries have been made, and there are now not less than 200 developed mines in the county, a large proportion of them in operation. The production of silver, gold, lead and copper by the county during the past two years was as follows:

	1891	1892
Gold	$ 125 000	$ 287,500
Silver	2,790,000	1,808 700
Lead	1,1·9 000	375,000
Copper	215,000	143,700
	$ 4,310,000	$ 2,875,000

The large decrease in production for 1892 is due mainly to the low price of silver, and the consequent decrease in mining operations. In connection with the mining industry, there are in the county nine stamp mills, six concentration and reduction works. Average wages paid miners, $3.50 per day. In the above aggregate of the annual output of Ouray county mineral, it must be considered that the greater part of the total volume comes from a few mines of largest development, where in some instances new strikes in the older properties contribute the most important part. This is the most encouraging part of the mining history of this section, and promises everything for the future of the camp. Important among the various attractions of Ouray county are its fine sanitary conditions. The City of Ouray is a popular health resort. There are no less than 100 mineral springs in the county and in Ouray City, hot and cold mineral springs of the finest remedial virtues are amply provided with bath houses and suitable accommodations for the health or pleasure-seekers, while the hotel accommodations are all that could be desired. In its many resources and attractions, Ouray county has a future of great wealth and prosperity.

Park.

Park county is centrally situated in the high mountains, and is surrounded by the counties of Lake, Clear Creek, Chaffee, Fremont, El Paso and Jefferson. It possesses an area of 2,144 square miles, all of which is mountainous, except 520,000 acres, which comprises South Park, one of the links in the great chain of parks in the Rocky Mountain system. It is almost exclusively a mining and stock-raising county. Its principal mining districts are neighbors to the great silver and gold mining regions of Lake and Clear Creek counties, though less important in their yield of the precious metals. Three hundred thousand acres in the South Park comprise the agricultural area. The remainder of the park, together with the hills and valleys that border the higher mountains, form a grazing area of 600,000 acres, thus affording good advantages for the live-stock industry. Agriculture is impossible, owing to the altitude, which is from 8,100 to 14,300 feet, with an average of 9,000 feet above sea level. The county is watered by the South Platte, and the north, south and middle forks of that stream, and a large number of private irrigating ditches are constructed through the Park, but only for the purpose of making hay from the wild grasses for winter feed to the cattle, sheep and other animals which range the country in large herds through the open seasons, and require feeding through the more severe periods of the winter. Beef cattle are slaughtered from the ranges, fat in mid-winter.

The county was organized in 1861, and has a population estimated at 4,000. The assessed valuation of Park county is $2,075,292; estimated real valuation, $4,150,584; county debt, $25,000; rate of taxation county and State, 25 4-30 mills. The principal towns are Como, Fairplay and Alma, with mining populations of about 500 each. The principal districts of present operations are horseshoe, lead ores, carrying small amount of silver; Mosquito district, rich gold and silver mines, also some lead and copper; Mount Bross, both gold and silver, and Mount Lincoln, the same. Buckskin district has gold mines that have been operated since 1869. About fifty mines are in operation. The total estimated value of the output of the mines in dollars for gold, silver, copper and lead in 1891, was $716,450. Output in 1892, $525,000. The decrease in the output for '92 is attributed to the low price of silver. One large coal mine at King, near Como, and belonging to the Union Pacific railway, is in operation. The county contains a great deal of undeveloped wealth outside the kingdom of precious minerals. Along Currant Creek are extensive deposits of mica. Kaolin is found at Montgomery, and there are beds of abestos, silica, gypsum and fire-clay. The most extensive quarries of lime are near Fairplay. In every direction there are vast quantities of building stone, and from the saline wells quantities of salt are taken.

The Colorado Midland, the London and Leadville and the Denver and South Park railways pass through the county, with a trackage of 153 miles. There are many fine resorts in Platte Cañon. The Hartzell Hot Springs afford fine attractions, with all accommodations for the health and pleasure seeker. For magnificent scenery, fine fishing and hunting and a climate that is congenial and healthful, South Park everywhere receives favorable attention, while for the person looking after industrial pursuits, the mining country has not yet been half way prospected, and there is an abundance of timber and grazing land remaining idle awaiting the requirements of future population.

Phillips.

This is one of the new counties of North-eastern Colorado, organized in 1889, adjoining Kansas on the east and forming one of the tier of counties in what is popularly termed the "rain-belt" section of the State. It is exclusively an agricultural and stock raising county, cattle and sheep predominating. It has an area of 672 square miles and an elevation of 3,500 feet. It is admirably situated and is throughout a beautiful level prairie. It is without living streams and its water supply is obtained from wells and the seasonable rain-fall, from which latter source the depressions and the "dry creek" beds retain ample water for all stock. All the cereals, grasses, vegetables and melons are successfully raised, and the sheep and wool industry is important, particularly on account of the wide range of good pasturage. Population, 3,500; county seat, Holyoke; population, 1,000. Assessed valuation, $809,000; real valuation, $2,400,000; county debt, 25,000; rate of taxation, 4½ mills; total acres land available for agriculture, 416,000; total acres available for pasture, 14,080; total acres of unoccupied Goverement land available for agriculture, 4,600; total acres unsold, State lands, available for agriculture, 19,000; average price per acre, $7. Estimated profit per acre per season on wheat, $10; oats, $9; corn, $6.50; rye, $15; barley, $12; potatoes, Irish, $30. The estimated annual wool-clip of the county is 20,000 pounds, principally from the Merino sheep, bringing in the market an average price of 20 cents per pound. While the number of animals of all kinds is comparatively small, the advantages offer an opening for extensive enterprise in connection with the general live-stock business. In farming, wheat is the leading product and the most successful. The soil of Phillips county is a rich sandy loam, having a depth of five feet. With deep ploughing, it is claimed that it becomes retentive of moisture under the influence of the underflow throughout the arid region, as well as from the rains, although the season at times become exceedingly dry. Corn especially thrives under these conditions. The soil of Phillips county, like that of all North-eastern Colorado, and similar in most respects to that of Western Nebraska, is well adapted to the culture of the sugar beet, and a beet-sugar manufactory is one of the future probabilities of that section.

A branch of the Burlington and Missouri railway runs centrally through the county, giving convenient transportation for the products of the farm. The various settlements in the county, with their numerous schools and churches, show a healthy social condition, and as the results of the past two year's farming has fully sustained every enterprise.

Pitkin.

This is one of the richest mining counties of the State. It lies on the western slope of the main Continental range, adjoining Lake county on the west, with an area of 900 square miles, and a population af 12,000. The City of Aspen, the county seat, with a population of 8,000, is the great mining center of the county, bearing the same relation to Pitkin county that Leadville bears to Lake. The great mines of the county, and among them some of the richest and most famous producers in the State, immediately surround the city, and from these mines come the enormous masses of silver that entitle it to rank as second only to Leadville in mineral riches. The greater portion of the county is mountainous, with an abundance of timber, and the valleys are amply watered by four principal streams and their numerous tributaries, 250,000 acres of valley lands being available for agriculture and grazing, with a sufficient water supply to irrigate all arable areas. Owing to the altitude of the valleys, which average 7,500 feet, no great effort has been made in agriculture. Very little grain is grown, and the principal products are hay, potatoes and garden vegetables, the hay that is cultivated, together with the rich grazing of the valleys, being ample to keep the cattle and other live-stock of the county. Total acres of land available for agriculture, 20,000; for grazing, 230,000; acres cultivated under ditch, 9,000; acres unoccupied under ditch, with available water, 7,500; unoccupied public lands, 5,000 acres. The average production per acre for hay and other crops is as follows: Alfalfa, tons, 5; clover, 3; timothy, 3; red top, 3; native grasses, 2; potatoes, (Irish), 6; turnips, 12; cabbage, 12. Number of cattle in county, 30,000; horses, 1,650; asses, 350; dairy cows, 700; sheep, 200; swine, 350.

Some varieties of small fruits, particularly blackberries, raspberries, gooseberries, currants and strawberries grow in great profusion, and can be raised at enormous profit. But Pitkin county embraces a great combination of miscellaneous industries and resources. The coal industry is one of the most important in Pitkin county. There are numerous large deposits of coal, and there are fine bituminous mines in operation, furnishing coal and coke for Aspen and other markets outside the county. Output of county for 1891, 150,000 tons; for 1892, 165,750. Average price per ton, $3.50; average cost for mining, 90 cents; number of men employed in coal mines, 250; average price paid miners per day, $3. In the southern portion of the county is one of the largest bodies of iron in the western country, without development. Great bodies of peach-blow sandstone exist in the

western portion. This is regarded as the choicest building stone in the world. There are also large marble beds of the white, black and mottled varieties. The social and religious aspects of the county are most favorable. There are thirteen public schools in the county, while the City of Aspen has nine churches, 1 Catholic, 2 Methodist, 1 Lutheran, 2 Epicopal, 2 Presbyterian and 2 Swedish. The City of Aspen is reached from the outside world by the Denver and Rio Grande and the Colorado Midland railways. These lines afford ample transportation to the people, and the products of their industry.

So great is the mineral wealth of Pitkin county, that all other interests are secondary and subordinate to the mining industry, and the county needs nothing more for her permanent prosperity. The assessed valuation is $4,000,000, while the real valuation is estimated at $18,000,000. Up to 1881, the greater part of the county was a part of the Ute Indian reservation. In the fall of 1879, the great "lead" was discovered that has made this country rich, and in 1880 there was started the mining camp of Aspen. Pitkin county was organized May 27, 1881, and its progress has been one succession of surprises. For the first seven years of Aspen's existence, its inaccessibility prevented the rush which is usual with new mining camps. The early miners experienced all the difficulties incident to the industry in isolated mountain regions, when dependent upon jack trains and teams for transportation. There was therefore no very startling revelations by development until 1887, when two lines of railway reached the camp. The value of the output for that year was $2,358,000. This gave a stimulus to the industry; the mining population increased, new discoveries were made, new machinery and increased forces were placed in the older mines, and operations began on the new ones, rich strikes were made, mineral was found in plenty throughout the county, new districts were formed, and Aspen soon sprang from a mining town to a city of handsome proportions. In 1888 the production of silver in Aspen reached the splendid sum of $5,229,860, and has largely increased each year to the present, the output for 1892 being reported at $8,162,293.

The situation of Pitkin county, with reference to the mineral formation, is one of the advantages so great that there is no possibility of computing the extent of mineral treasure. Its eastern boundary is the summit of the Continental Divide, and in and near the summit of these mountains are numerous rich and valuable gold leads that are gradually being opened up, and in time will bring enormous riches to the county. About fifteen miles west of this summit lies the point where the archean rock upheaves the silurian deposits, and in those magnesian lines that lie between the quartzite and the lower carboniferous shales, or blue lime, are found the richest deposits of silver ore in the country. This line of contact, or lode, extends in a north-east direction across the whole county, a distance of about forty miles. While its apparent richest point is in or about Aspen,

development shows that, to a great extent, it is all mineralized. At first it was supposed that the richest mines were all on Aspen Mountain. But soon, however, Smuggler Mountain began to produce, and is now producing rich ore as far north as Woody creek (about eight miles), and good mines are being discovered all along this wonderful lode for a distance of twelve miles to the south. Since the great camp of Aspen began to produce, there has been mined from this one great lead the enormous amount of $40,000,000, and the entire product of the county forms a large proportion of the entire product of the State in mineral wealth.

Besides rich producing mines that are credited to the Aspen district proper, there are the mines of Maroon Creek district, the fissure veins in Conundrum gulch and about Ashcroft, the rich leads of Lincoln gulch, the valuable gold deposits of Independence, the copper ore beds on Snow Mass, and the undiveloped section on Rock Creek, and many other sections of new discovery. The following record of the value of output of the Aspen mines is a wonderful showing in view of the fact that its real substantial development did not begin until five years ago:

YEAR.	TONS.	VALUE.
1884	10,000	$ 1,420,000
1885	12,500	1,625,000
1886	13,000	1,530,000
1887	26,800	2,358,000
1888	90,170	5,229,860
1889	129,750	7,259,000
1890	147,800	7,098,240
1891	129,053	7,320,000
1892	182,468	8,162,293
Totals	724,621	$ 41,702,593

Average wages paid miners $3.50 per day. Capital invested in mining, estimated at $12,000,000.

In connection with the mining industry there is one large smelter, three reduction works and three stamp mills at Aspen, employing about 200 men. There are hundreds of mines in the county yet awaiting development, which, it may reasonably be expected, will yield as richly as any that have been developed. The great area has been only partially prospected and thousands of acres are open to location by prospectors. As in the case of Leadville the richer strikes which have occurred of late years in the older mines by extended development have been the greatest contributions to Pitkin county's wealth.

In addition to its wealth it has the advantages of splendid climate and fine mineral springs, and the delightful City of Aspen becomes one of nature's health resorts in all seasons of the year.

Prowers.

One of the important factors in the transformation of the Arkansas valley from a sterile waste to a land of homes and towns, of fields, of orchards and gardens, is Prowers county, situated in the eastern extremity of the valley, adjoining the State of Kansas. It is one of the several counties taken from Bent, formerly the great cattle range of south-eastern Colorado, and has wonderful advantages of soil for agriculture and stock raising, which become the chief industries of the people. The first agricultural settlements were made about twenty years ago, but there was little farming for general crops until after the county organization in 1889. It is within the area designated as the "rain belt," and crops of grain and hay have from the first been raised there without irrigation. But the true era of agriculture dawned when large extensions of irrigating canals were made down the Arkansas, reaching into and through Prowers county within the past three years. Large irrigating canals have been constructed in the richest portions of the valley, covering wide tracts of land that now produce richly in wheat, oats, corn, alfalfa, in fact all the cereals, grasses, root crops and the fruits of tree and vine. Other irrigating ditches are projected or under construction, and the future of the county will be that of great agricultural development, wherein the orchard and the vineyard will be an important part, inasmuch as all the Arkansas valley in Coiorado is splendidly adapted to to fruit culture.

For the past five years Prowers county has been making rapid strides along the highway of agricultural progress. Much of her once unattractive prairie land has been converted into far reaching ranches of alfalfa and grain, and this has been the result of irrigation. In no other portion of the State has more been accomplished in so short a time, toward a large, thorough and efficient system of irrigation as in Prowers county. The truth of this statement will be made more apparent by the following figures, which are illustrative of the general advancement of agriculture in the Arkansas valley. The greatest portion of the work has been accomplished within the last two or three years.

The La Junta and Lamar canal is 114 miles long, is 30 feet across at the head and covers hundreds of thousands of acres of now most valuable land. The Colorado and Kansas, when completed, will be 155 miles long, reaching into western Kansas, and covers 100,000 acres. This was the fourth ditch built in the valley and was the first of any great size.

The Bed Rock is a mutual ditch, is eleven miles long and covers 4,000 acres of fine bottom land. The Amity canal waters the land north of Lamar. It is now sixty-seven miles long and will, when completed, reach the State line—a distance of eighty miles from the head-gate. It now covers 108,000 acres, a great portion of which is improved land. The cost of construction of this ditch was $200,000.

The Prowers County Land and Irrigation Company is the successor of a company from whom they bought several ditches for $101,000. Their main ditch is fifty-three miles long and capable of irrigating 30,000 acres.

Among the private ditches are the Hyde, eight miles long and irrigating 8,000 acres; the Manvel, fourteen miles in length and covering 15,000 acres; the Graham, having 10,000 acres under it and being twelve miles in length; the Buffalo, irrigating 12,000 acres, with a length of fifteen miles; the Susan ditch, six miles in length and covering 1,000 acres; and the X. Y. ditch, twelve miles long and irrigating 9,000 acres. These canals serve as a fair illustration of the extensive advancement made not in Prowers county alone but throughout all the counties of the Arkansas valley.

Prowers county has an area of 1,658 square miles, an elevation of 3,500 feet, and an estimated population of 2,200. The county seat is Lamar, with a population of about 700. Other towns are Granada, Holly, Mulvane, Carlton and Manvel, mostly situated on the line of the Atchison, Topeka and Santa Fé railway, which runs through the county east and west.

Assessed valuation of Prowers county, $1,291,365; estimated real valuation, $3,500,000. The county has 22 public schools and several churches, principally of the Methodist and Christian denominations. The larger portion of the county consists of grazing lands, all of it being cultivable, and there are about 200,000 acres available to irrigation, a large portion of it being now under ditch, the present system of ditches aggregating over 200 miles in length. In 1892, there were about 20,000 acres planted in grain alone, and the average yield was stated at 30 bushels for wheat, oats 50, rye 25, corn 45, alfalfa 5 tons. The price of land ranges from $5 to $25 per acre. The perpetual water rights for 80 acres sell in this county at $1.000, and the water assessment is 15 cents per acre.

With an unlimited range, a mild climate and fine grass throughout the year, the county possesses every advantage for the live-stock industry. Estimated number of cattle in county, 25,000 head; horses, 2,000; sheep, 15,000.

Among the industries of the towns is one of the largest flour mills in the State, located at Lamar, which is one of the requirements of the growing agricultural interests. It has a capacity of 400 barrels of flour per day. A number of small manufactories have sprung up within the past year incident to agricultural development which increased the assessed valuation on such property from $20 in 1891 to $480 in 1892. In all departments of industry the strength of the county lies in the great resource of its fertile soil, with a vast area of land awaiting tillage at the hand of the new population that is steadily moving westward in quest of settlement and home.

Pueblo.

The county of Pueblo possesses great wealth of material resource, and it is rich in its agricultural and live-stock interests, but its greater prosperity is due to the magical growth of the City of Pueblo, which has, within the past ten years, developed from a commercial town of 4,000 inhabitants to a splendid metropolis, both of commerce and manufacture, with a population of 40,000. No county in the State furnishes a more pertinent illustration of the rapid and substantial ratio of increase in wealth, population and industrial development, and in all these the county and city are second only to Denver and Arapahoe county.

Pueblo county, lying at the foot of the mountains in the Arkansas valley, is a ground of historic fame, and the present site of Pueblo City was a rendezvous of the Indians, Mexicans, and the trading American adventurers before Colorado was a territory. Much of its crudities remained until after the Leadville discoveries in 1878. But now all things have changed, and a swift transformation has established the perfect order of a high civilization. The county contains about 2,700 square miles, with an average elevation of 5,200 feet, its lowest altitude in the valleys being 4,400 feet. In physical features it comprises foot-hills, valleys, mesas and level plains. It is watered by the Arkansas river, which flows centrally through, and its tributaries, the Fontaine Quibouille, Huerfano and St. Charles, which afford water for irrigation. Both mesas and valleys are fertile, and the soils vary at different parts between a sandy loam, black loam, clay, decomposed shale and alluvial wash from the mountains. All these lands are highly productive, wherever water can be applied, and the leading products in their order are wheat, corn, oats, barley, rye, alfalfa, beans, peas and every variety of vegetables, and nearly all kinds of fruit. The county also contains a large area of grazing land, finely adapted to live-stock, which is one of the prominent interests.

Total acres of land available for agriculture	217,000
Acres available for pasture	415,300
Total acres under ditch	43,116
Total acres unoccupied Government land available for agriculture	42,000
Total acres available State land	32,000

Estimated average yield per acre in leading crops:

Wheat, bushels	30
Oats, "	45
Corn, "	60
Barley, "	30
Rye, "	30
Alfalfa, tons	5
Clover, "	3
Timothy, "	3
Millet, "	3
Hungarian Grass, tons	3
Potatoes, bushels	150

Vegetables and small fruits yield enormously.

Estimated yield of leading crops in 1892 :

Wheat, bushels	59,650
Oats	37.000
Corn	59 900
Barley	6,8•0
Rye	2,687
Alfalfa, tons	9,987
Clover	2,946
Timothy	2,387

The possibilities of fruit growing are limited only to the area cultivated. The product is of high quality. Following is the crop of 1892 from 268 acres in bearing: Apples, bushels, 5,000; peaches, 330; plums, 1,604; pears, 405; grapes, tons; 25; blackberries, quarts, 2,300; raspberries, quarts, 2,000; gooseberries, 7,100; currants, 6,250; strawberries, 119,875; cherries, 2,350. Bee culture has great advantage in the variety of plants and flowers, wild and cultivated. Number of hives, 587; product of honey, pounds, 30,087. Number of cattle in county as reported by assessor, 23,807; dairy cows, 4,367; horses, 6,375 mules, 500; asses, 150; sheep, 6,500; swine, 950. The wool clip in 1892 was 30,080 pounds. Dairies, 3; cheese factories, 1. Butter manufactured in 1892, 12,900 pounds. Assessed valuation of Pueblo county, $18,800,000, or a real valuation approximating $60,000,000, with a county debt of $488,000, the larger proportion of this for public improvements. Educationally, Pueblo county stands in favorable contrast with the schools of the Eastern States. There is a school census of 7,730, attending 64 public and 5 private schools. Value of school property, public, $447,646; private, $120,750; total, $568,396.

THE CITY OF PUEBLO.

The advantages of Pueblo county have been shown in brief, and many points of value have been omitted. The City of Pueblo, as a center of wealth, population and industry, claims the greater share of attention. Like all large cities having an important combination of industries, the suburban environments become the points of the greater productive operations. Pueblo is conveniently accredited with every and all industries. In the abstract, this is proper, but the suburban city of Bessemer has 6,000 inhabitants; Overton, 1,500, These towns contain the larger manufacturing establishments, give more employment and yield a larger proportion of wealth to the people. Practically this trinity of towns unite in making the City of Pueblo, with 40,000 inhabitants, and a great combination of industrial interests. This is the view that must now be taken of Pueblo, looking to its great future.

"Where the coal meets the iron great cities are built. Pueblo is so situated and will be a great city." This is a prediction of ten years ago, which is verified to-day. It is already a manufacturing center of the Rocky Mountain region. It is one of the largest distributing points in the State. Situated as she is within easy reach of great iron deposits, and with her numerous furnaces, she will continue to sup-

ply the markets of the West with railroad and all manner of merchant iron and steel, while from her mineral wealth, with her smelters and her shops, she is furnishing the world her quota of silver and gold, and the implements of use from copper, lead and zinc, all these the products of native ores. The iron and steel products are from the Colorado Coal and Iron company, the only establishment of the kind in the State, employing 2,000 men and millions of capital. Other leading industries are: The Philadelphia Smelting company, the Pueblo Smelting and Refining company, the Colorado Smelting Company, the Massachusetts Smelting and Refining company, three sampling works, Lannou's Iron Foundry, Pueblo Pressed Brick company, machine shops, fire brick company, harness manufactory, broom factories, harness and saddle, Rocky Mountain Oil company, and a large number of smaller establishments, altogether giving employment to more than 10,000 people. The assessed value on manufactures is $7,220,000, representing a true value of $14,000,000. The annual value of manufactured products is estimated at $24,000,000; value of raw material consumed, $4,500,000. The markets for the manufactured articles are the railroads and mining camps in the State, the adjoining States and Territories and points in other States, from New York to San Francisco. The assessed valuation of merchandise is $1,926,000, representing a true valuation of $10,000,000. Pueblo is second only to Denver as a great railway center and distributing point for all manner of traffic. The railways concentrating in the city and connecting it with all parts of the world are the Denver and Rio Grande, Missouri Pacific, Union Pacific, Atchison, Topeka and Santa Fé, and the Chicago, Rock Island and Pacific, all these roads having a combined trackage of 309 miles in the county. The city is compactly built in its business centers, with a prevalence of large blocks of brick and stone. It is elegantly equipped with hotels and places of amusement, and it has rapid transit throughout its urban and suburban thoroughfares. The city is picturesque in its environments of hills and mesas, which have become the sites of the most delightful homes, while miles of level plane have become populated within the recent years of the city's magnificent growth. In all respects Pueblo is most favorably situated, having a tributary resource of wealth from the mines and the farms of Central Colorado and the great Arkansas valley, that assures its industrial permanency and will surely make it one of the great cities of the West.

Rio Blanco.

Rio Blanco, or the county of the White river, is located in the north-western part of the State and is bounded by Utah Territory on the west, Routt county on the north and east, and Garfield county on the south. Meeker is the county seat and is located near the site of the Indian battle ground where Thornburg and his command were surrounded and massacred during the Meeker outbreak. Meeker, after whom the town was named, was the unfortunate agent at the

reservation when the uprising occurred. He was killed and his family carried into captivity. A monument was erected on the site of the battle ground as a commemoration of the event and as a tribute of the United States Government to the gallant service of the troops. It was in this county also where occured the more recent trouble with the Utes under Colorow, and where the State militia gave effective aid in driving forever from that section of the country the roving bands who every summer terrorized the settlers along the White river. To-day the population of the county is 1,195, of which Meeker has 300. The county is well watered by the White river and its tributaries. There are forests of white pine, white and red spruce and fir, of which the table lands of the eastern part are covered. The soil is a gravelly loam. Farming and stock-raising are the chief industries, and from the prosperity of the people these industries thrive. But its greater riches for the future lie in its wonderful material resources, which as yet are undeveloped. In April, 1889, Rio Blanco county was organized from the northern part of Garfield county. At that time the valuation was $803,020; this year it is estimated at $2,000,000; the debt is $41,000 in bonds. There are seven public schools, a school ceusus of 250, and a valuation of $13,000 in school property.

Total acres of land available for agriculture, 150,000, two-thirds of which require long ditches; acreage for grazing, 2,000 square miles; acres of land under ditch, 25,000; unoccupied public land, 100,000 acres; under cultivation, 20,000 acres. There are two saw-mills in operation; also some mining prospects of a low silver grade ore; also iron and beds of bituminous coal in the great Hogback. Of the latter there is some development, four mines being in operation to supply the local market. The veins run from 3 to 30 feet. In this county are also found beds of bistre mineral paint, a fire-clay of good quality, immense deposits of gypsum and lime. A fine quality of sandstone of the yellow, mottled and gray varieties are also found.

The county has immense wealth in coal and iron. The coal veins, consisting of about twenty in number, ranging from three to thirty feet in thinkness, traverse the entire width of the county, and the workable veins are found always in the Laramie sandstone, or past cretaceous. Nine of the veins thus far discovered range in thickness from 7 to 25 feet, all of which contain good, merchantable coal, and some of the veins have coal of a superior grade. In these coal measures there is a 7 foot vein of cannel coal of exceptional quality. There is also a 6 foot vein of coking coal. Asphaltum has been found, and petroleum exudes from the sand ledges south of White river. The heads of the north and south forks of White river are known to contain a great amount of silver-bearing lead ores, which will in time add to Colorado's output. Sandstone of excellent quality for building exist in many shades and colors, and in enormous deposits.

Rio Blanco county has a great future for agriculture. It is estimated that 230 square miles is arable land. About 60,000 acres have

already been located, to irrigate which 880 miles of canals and ditches have been constructed. There still remain 90,000 acres of irrigable land to be located, the most of which can be irrigated by large canals. As yet, agriculture is not extensive, only the richer valley lands being cultivated. The crops are abundant, the usual average per acre being, of wheat, 30 bushels, oats 50 bushels, and potatoes, 240 bushels.

Under present conditions, the live-stock industry is the interest representing the greatest amount of wealth. No country in the world possesses greater advantages for live-stock than the sheltered hills and grassy valleys of Rio Blanco county. Besides the advantages of a rich summer range throughout the county, the enormous yields of alfalfa and other hays afford ample feed for winter, enabling the herdsmen to keep his horses, cattle and sheep in good condition throughout the year. The number of cattle in the county is estimated at 50,000 head; horses, 8,000; sheep, 10,000. The annual wool clip is about 40,000 pounds.

Fruit culture has scarcely passed the stage of experiment, but it has been proven that most of the fruits more successful in Mesa county can be grown in portions of Rio Blanco, while all kinds of wild berries grow in great abundance upon every hill-side in the middle and western portion. The forests contain a wealth of useful timbers, and abound in elk, deer, mountain sheep and the smaller game. The county contains numerous fine lakes and streams, swarming with fish, and affording the most delightful places of health and pleasure resort.

Rio Grande.

The county of Rio Grande is situated in the southern part of Colorado, and in the central and western portions of the great San Luis valley. It is watered by the famous Rio Grande river and its tributaries, and possesses immense resource of wealth in agriculture, mining and stock-raising. It embraces mining camps that are noted for their riches in the precious metals. The county contains an area of 1,260 square miles. The western portion of the county is mountainous, and largely covered with forests of useful timbers, which become the source of a large lumber supply. The eastern portion, about one-third the county, lies in the valley, with level surface, a soil of rich, sandy loam, easy to irrigate, and comprising one of the richest bodies of agricultural land in the State, the larger portion being uncultivated, becoming a vast range of superior grazing land for the flocks and herds. Thus the live-stock industry of Rio Grande county becomes one of great importance, combining with it the dairy and wool interests, which are of increasing profit to the farmer and the stockman.

The county was organized in 1874. The first settlers were stockmen, and believed the country good for nothing else. Then a few acres were cultivated along the river bottoms, mostly for garden stuff.

Then soon it was discovered that grain grew well and matured. Finally the large canals, which make San Luis valley so famous for its superior irrigation facilities, were constructed, and the country has proved one of the best agricultural sections of the State, notwithstanding the altitude is 7,500 feet. There are now over 800 irrigating canals and ditches in the county, having an aggregate length of 500 miles, and irrigating 150,000 acres. It is in this valley that crops of oats have attained the highest growth, and entire fields of wheat and oats have reached the highest average and the greatest maximum yields for the State.

Rio Grande county has a population of 4,800. Del Norte, with a population of 1,000. is the county seat; Monte Vista, 1,200. The remainder of the population is distributed among the farms and mining camps.

Assessed valuation of county	$1,780,143
Real valuation	3,360,000
County debt	130,812
Rate of taxation, county, 25 mills; State, 4 2-5 mills.	
Total acres of land available for agriculture	191,960
Acres land under ditch	150,000
Acres cultivated under ditch	77,000
Total acres unoccupied land under ditch with available water	73,000
Total acres unsold State lands available for agriculture	35,500
Average price for land, with water, $15 per acre.	

The leading products of the soil are wheat and oats. Crops most successfully grown, wheat, oats, barley, rye, buckwheat, potatoes, turnips, field peas, sugar beets, cabbage, alfalfa, clover and all grasses, small fruits and garden vegetables. The average yield per acre in the leading products are above that of the State, and, owing to the prevalence of exceptionally large production on many farms, the range is reported approximately as follows: Wheat, bushels per acre, 25 to 50; oats, 40 to 80; barley, 40 to 60; rye, 40 to 60; alfalfa, 4 to 5 tons; timothy, 1 to 2 tons; red top, 1½ to 2½ tons; potatoes, Irish, 6 to 9 tons; turnips, 20 tons. Monte Vista and Del Norte are the principal markets, and the products are consumed in the county. All the towns in the valley have increased from villages to their present importance, by reason of agricultural development, with a steady increase in population, and value of property to the present.

The Denver and Rio Grande railroad passes through the center of the agricultural region, reaching the mining camp, with a trackage of 56 miles. Water rental, $1.10 per acre per season. Average cost of farm labor, $25 to $30 per month, estimated profit per season per acre on wheat, $15; barley, $15; Irish potatoes, $100; alfalfa, $25; timothy, $15; native grasses, $10. The following statistics of livestock do not show the true extent of its importance. All the uncultivated portion of the county comprises a vast range of fine grazing, while the hay products afford the most nutritious feed. There is therefore room and sustenance for great multiplication of the herds. Number of cattle, 18,000; dairy cows, 1,200; horses, 4,000; mules, 168; asses, 52; sheep, 30,000; swine, 700. In addition to the advantages enumerated, the climate, altitude, etc., have splendid adapta-

tion for breeding fine blooded horses, while the mountains, valleys and plains, afford every means for the promotion of the cattle and sheep industry. It is also a favorable country for hogs and poultry, the hog fattening as well upon alfalfa as upon corn. The wool-clip for 1892, was 120,000 pounds, the sheep being a cross between the Mexican and Merino, and the wool commanding an average price of 16 cents per pound. A combined creamery and cheese factory started last summer (1892), shows that such an establishment can be made greatly profitable. One of the chief advantages is in the abundance of water by artesian wells, at 47 to 50 degrees, no ice being needed at any time of the year. The principal manufactories of the county consist of one foundry, one flour mill, at Monte Vista; one brewery and one concentrator at Del Norte. Capital invested, about $75,000. Gold, silver, lead and iron are mined. Thirty mines are in operation, and there are 425 patented claims, including 550 acres of patented placer ground. Some very important finds of gold have been made, and recent discoveries give promise of rich rewards in future operations. Coal has been discovered in the south-west corner, but as yet undeveloped. One iron mine was opened in the fall of '92, and the property is operated for shipment of ore to the foundries at Pueblo. Fine qualities of pink and gray lava and gray sandstone exist in various parts, and four quarries are in operation. There are also undeveloped beds of mineral paint, kaolin, fire-clay and lime.

Owing to the delightful climate and charming surroundings all the towns and settlements are classed as health resorts, while the Shaw mineral springs (warm) and the hot springs at Wagon Wheel Gap, are established resorts for the health and pleasure seeker. The latter place is historic and famous, and is one of the popular resorts of the West for the health and pleasure seeker. The advantages of climate in Rio Grande county and throughout San Luis valley are many. There are no extremely severe winter storms or blizzards. Land under irrigating canals, which are completed and in successful operation is still cheap, while the settler has the superior benefit of having the canals completed and in successful operation when he locates. Opportunities for investment of capital in many enterprises are offered, and among present needs are such as a potato starch factory, beet sugar factory concentration and reduction works, to meet the demands of increasing output from the mines. The soil is especially well adapted to the growth of the sugar beet. The yield is very large and the per cent. of sacharine very high—15 to 17 per cent. Rio Grande as well as all the counties of the great San Luis valley will before many years be filled with an industrious and thrifty population.

Routt.

In the diversity and vastness of its resources, and in the many advantages of varied industry, Routt county offers one of the richest fields in the State for development. It only awaits the advent of the railway to overcome the rugged environments of mountain barriers,

when it will become famous in the world for its many attractions. Similar in its general physical features to other mountain counties it surpasses all in the variety of charming scenes. The Park Range of the Continental Divide is the eastern boundary; upon the west lies Utah; upon the north, Wyoming, and Rio Blanco and Eagle counties on the south. A journey from any portion of the State over the ranges into Routt county may be likened to sudden transportation to a strange country in an unknown part of the world. The county takes its name from the Hon. John L. Routt, twice Governor of the State, his last term expiring in '93. Its area is 4,500 square miles, being in form 90 x 50 miles, occupying the north-west corner of the State. Middle Park occupies a large area in the eastern end of the county, and the remainder of its territory comprises hills and valleys, forests and streams. In some portions the forests are densely timbered, covering vast tracts of country, and alive with elk and deer, and the smaller game. Many broad, fertile valleys intervene and stretch out through the county to its western limits. A multitude of springs, forming creeks in the eastern part and increasing in volume to rivers in the center, empty into the Yampa (Bear) river in its outward flow to the west. These streams flowing north and south into the main river water numerous valleys that are everywhere rich in soil and productive of all the cereals and grasses. Considerable farm development has been made during late years, and wheat, oats, rye, barley and potatoes are grown with great success. The soil yields enormously, and notwithstanding the sparse settlement, the crops have become so important in the Yampa valley as to require the establishment of two flouring mills, the product of which contributes largely to the maintenance of the population. The leading industry of the people thus far developed is that of stock raising, and for this business the county throughout offers extraordinary advantages. The product of greatest volume and value, therefore, is hay for winter feeding. These splendid valleys, so amply watered, so rich in wild grass and so well sheltered by the surrounding hills, offer every possible advantage to the live-stock industry, and the herds of horses, cattle and sheep are large and numerous. The cattle business is especially large and profitable, while a number of the leading stock farms in the State have been established in this county, and the breeding of blooded and thoroughbred horses has become a large branch of the business. According to the assessor's report for 1892, the live-stock statistics are as follows:

Horses	10,874
Cattle	28,672
Sheep	20,470
Mules	74
Asses	20
Swine	134

Assessed valuation, $624,979.

Routt county was orgauized in 1887. Three years later its population was only 140. The population, according to the census of 1890, was 2,369. It possesses room and resource for the population of a

State. Steamboat Springs is the county seat, and the second town in importance is Hahn's Peak, a few miles to the north, which is the center of a placer mining district, yielding considerable wealth in gold.

The assessed valuation of the county is $1,148,797; estimated real valuation, $3,446,401.

In addition to its splendid advantages of agriculture and stock-raising, there is enormous wealth in its combination of material resource. There are undeveloped discoveries of silver and lead. Coal is found in immeasurable quantities, the field extending from Steamboat Springs westward to the State line. A few miles west of Steamboat Springs a great body of bituminous coal is found in veins from six inches to twelve feet wide, while nearby great deposits of anthracite are known to exist. Large bodies of the strongest, most compact white sandstone are found in the Yampa valley, and great bodies of onyx, that cannot be excelled in the world for beauty and purity, are found in various places. Iron of high manufactural grade is found in immense bodies in many parts, and indications of oil are to be seen throughout the county.

The people are now anticipating the early construction of a short line Pacific railway from Denver to Utah, through Routt county, which will overcome all obstacles to industrial development, and make this one of the richest, most populous counties in the State. One of the chief attractions, as well as one of the great sources of wealth in the future of Routt county, will be in its great number and variety of mineral springs, hot and cold. There are no less than 100 of these springs, immediately surrounding the town of Steamboat Springs, and these waters became the chief attraction to the early settlers at this place. These springs are divided into a dozen distinct groups. Analyses prove their waters to be of the highest medicinal value in healing many diseases, and renewing exhausted vitality. In these various groups, the temperatures vary from 40° to 150°, each spring differing in some respects in their chemical combination, in some instances being entirely distinct. The most important of these are two hot springs of highest temperature, the one being 103°, and the other 150°, so hot that it will quickly cook an egg. These springs represent the highest type of Vichy waters. The former yields 250, and the latter, 400 to 500 gallons per minute. The spring that is destined to become of greatest use and benefit, is called the Bubbling spring. It forms a natural bathing pool, and its waters are highly charged with sulphur, soda, magnesia and iron, and are in a constant state of commotion, owing to an immense pressure of carbonic acid gas. The temperature is 75 degrees. Its chief virtue, so far as tested, is in the healing of rheumatism, and many a victim who has tried it testify that this spring is a certain and speedy cure.

The people of Routt county are confidently awaiting the advent of the railway, and when that day dawns there will be some of the most startling revelations in the history of Western development.

Saguache.

The farming, stock-raising and mining county of Saguache is 45 by 80 miles in extent. Rio Grande and Costilla counties bound it on the south, Hinsdale and Gunnison on the west, Gunnison and Chaffee on the north, and Huerfano, Custer and Fremont on the east. In this area there are 3,936 square miles. In the valleys the elevation is 7,500 feet, in the mountains the altitude is 9,000 feet. The face of the county is diversified. Thickly timbered are the mountains and fringing the streams are areas of forest land. The soil is a sandy loam principally. Saguache county has a population of 3,291, and the principal towns are Saguache, the county seat, Bonanza and Villa Grove. The act creating the county was passed January, 1867, and in June following its officers were appointed. The territory was taken from Costilla county and the Ute language was drawn upon for a proper name signifying "blue earth." At this time the assessed valuation was about $37,500, and the rate of taxation did not exceed one per cent. The existing county debt is $80,000, and the assessed valuation is $2,093,043, or an actual valuation estimated at $6,000,000. The estimated school census of Saguache county is 960, with 27 schools and a property valuation of $15,000. The Methodist, Presbyterian, Baptist, Episcopalian, Catholic and Union have flourishing congregations. Agriculturally Saguache county has quite a future. There are 200,000 acres of land available for irrigation; and of this amount 20,000 acres unoccupied Government land. There are about 3,900 acres of unsold State land also available for agriculture. There are eight saw-mills with an annual output in lumber of 2,000,000 feet. Mining. however. is the principal industry. In the districts of Kerber, Crestone and Biedell there are some excellent prospects, especially in Biedell and Crestone, where are found the gold ores. The output is chiefly silver. Discoveries were made in Crestone and Oriental districts in 1874, Biedell district in 1882 and in Kerber district in 1880. As near as can be ascertained the output is $150,000, as may be comprehended the mining work is still confined to prospects which generally show encouraging improvements as depth is gained. The extension of the Denver and Rio Grande railroad from Villa Grove to Alamosa has furnished much needed population and stimulated work in this direction, especially among the low grade ores. Coal has been found on Kerber Creek. The lands that have been entered and developed have shown fair prospects. There are four iron mines with an annual output of 20,000 tons. The character of the ore is hematite and the bodies from which it is extracted are said to be among the largest in the State. In addition to these sources there are quantities of lime and plenty of good building stone, generally of a pink variety. Gas has also been found in an abundance in the valley, and the general supposition is that oil also exists. For irrigation there are about 60 miles of main canal exclusive of laterals and small ditches. Artesian wells which are driven at a depth of from 150 to 400 feet also furnish an inexhaustible supply of

water. These, too, are used for irrigating purposes. The discovery of so many resources in this county has stimulated railroad building and the D. and R. G. R. R. has entered in various directions. Saguache county, in addition to the advantages already enumerated, claims a ranking place among the resorts of the State. Near Crestone are the Valley View Springs; five miles south-east of Villa Grove are the Chamberlin Springs; within an half a mile are the O'Neil Springs, and twenty-eight miles south of Saguache are the Shaw Springs, all of which are eminently good for medicinal purposes. It is in this county where the live-stock industry flourishes. There are 3,400 domestic cattle, and over 24,000 head of range cattle; horses, 5,000 head; sheep, 17,000, with a clip of 60,000 pounds. The varieties of wool grown are fine, medium and coarse, for which the prices run 14 to 17 cents per pound. This year there is a large acreage of cereals with an active demand and a strong market for all grain and hay raised. The hardy varieties of fruit grow well, but horticulture is yet in its experimental stage. Water for irrigation costs $1.40 per acre per season, rental, and the perpetual water-right for 80 acres is considered to be worth $400; upon this the assessment per acre per season, is 25 cents. So abundant, however, is the artesian flow that wells are being driven upon most of the farms. Some ranchmen have irrigated as much as 30 acres of grain land, and others as much as 80 acres of grass land from these wells, which vary from two to four inches in diameter.

San Juan.

This is the central county of the great mining country of southwestern Colorado, famous in the world as the "Silvery San Juan." It is one of the smallest counties in the State, having an area of 500 square miles, and one of the richest in silver and gold. An estimate, or a surmise, concerning the great, immeasurable and unfathomable treasure concealed within the stony vaults of the stupendous mountains would be impossible. The metallic seams and stripes that fret the mountains give the impression that every rock and cliff is loaded with precious minerals. It was organized in 1876, and is exclusively a mining county. It is bounded on the east by Hinsdale, on the west by Ouray, San Miguel and Dolores, and on the south by La Plata counties, all forming a part of what was originally known as the San Juan silver region in the days of early territorial settlement, when only the mountain ranges, the peaks and streams divided and designated sections. The region now embraced by San Juan was known as the heart of this country. It is a land of grotesque configuration. The Sierra Madre rises to a lofty height on the eastern side, the La Plata mountains lie on the west. Between these two ranges lies the valley of the Animas river, in which is situated the town of Silverton, the county seat and mining headquarters of all the surrounding camps. The peak of King Solomon stands to the north-east, Red mountain rises in the north, and Engineer mountain and the Sultain

rear their majestic heads in the south-east. The whole aspect of the county presents a scene unexcelled in picturesque grandeur. The Denver and Rio Grande railway extends from the south to the north, tracing the Las Animas river to its source near Animas Forks, giving an outlet southward to the world, while the Silverton and Red Mountain railway, one of the greatest examples of engineering skill, crosses Red Mountain, connecting Silverton with Ouray, and thence northward with all the railway systems of the State. There is plenty of water from the Animas and numerous smaller streams that rush down from the mountain sides. The valleys thus fertilized are richly productive of grass, affording abundant pasture for the cattle and horses which comprise a considerable part of the property of the settlers.

The total population of San Juan county is 2,500, embraced almost exclusively in the mining towns and camps. Silverton, 1,500; Howardsville, 100; Eureka, 125; Mineral Point, 100; Chattanooga, 100. The elevation of the county is from 9,200 to 12,000 feet. The hillsides are covered with timber.

Assessed valuation	$ 982 793
Estimated real valuation	3,000,000

Rate of taxation, State and county, 51 4-30.

The county has one public school, in Silverton, with a school population of 240. Value of school property, $15,000; three teachers, wages, $90 per month. Churches, one Catholic, one Congregational. The people come from all parts of the United States and Europe, and their employment other than that of mercantile pursuit is almost exclusively that of mining. However, in Silverton there are: one brewery, one electric light plant, two saw-mills, nine stamp mills, eight concentration and reduction works. The future of the county depends entirely upon the development of the great silver-bearing fissure veins that seam every mountain within this vast area of mineral wealth, but until of recent years the development has been slow for lack of transportation facilities. But since the building of railways and the establishment of smelters and reduction works at Durango in La Plata county adjoining, the refractory and low grade ores have been treated together with the ores of higher value, and the entire mining community is now in the midst of an era of progress and prosperity, such as it has never enjoyed before.

The Uncompahgre, Animas, Eureka and Red Mountain districts, contain the principal mining camps, with about forty-five developed mines, while patented mines and rich prospects may be numbered by the hundreds. The general character of ore mined are free gold ores, lead ores, gold and silver bearing, copper and iron, the silver ores predominating. As is the case in other rich mining sections of the State, the great strength of the county lies in its enormous reserve of treasure, which will require for its development the labor and genius of man for centuries to come. There is no section of the State that

offers a greater field for labor in the mining industry. No section has more positive assurance of permanency and growing prosperity; none that can surpass it in the number, size and extent of its silver-bearing fissure veins.

San Miguel.

This is one of the most prominent mining counties in the State, rich in its present development and great in the prospect of its undiscovered wealth. It belongs to the silvery San Juan region, and its mountains comprise a land of silver and gold, awaiting only the combined forces of adequate labor and capital to prove its wealth in the shining metal. In point of development, San Miguel county has been, until recently, a distinctively mining county, and in this lies its greatest source of wealth, but its largest area, extending westward from the mining region to the Utah line, comprises vast tracts of valley and mesa lands, possessing a fertile soil, and affording fine grazing for stock. In late years, many of these valleys have been settled by a farming people, and the lands cultivated with success. Great attention has been paid to live-stock, and cattle-raising is an important industry in that section. From this source comes the greater part of the fresh meats and dairy products used in the mining camps of the county.

San Miguel was organized in 1883, being formerly a part of Ouray county, and takes its name from the San Miguel river, the stream of gorgeous scenery so famous, which flows through the entire county from east to west. Situated in the south-western portion of the State, its eastern half is embraced in the great San Juan mineral belt. It is bounded on the east and north by San Juan, Ouray and Montrose counties, on the south by Dolores county, and on the west by Utah. The county seat is Telluride. Its area is 1,600 square miles; its elevation, 6,000 to 13,000 feet. The mountains are covered with forests of pine, piñon and quakingasp. The valley lands are well-watered by the numerous streams that flow through the county. The population of the county is 2,908. Telluride, with a population of 1,200, is the principal town; San Miguel, 100; Pandora, 100; Ophir, 250; Ames, 75; Placerville, 100. The people are from the Eastern States, mainly, many of them Cornish miners, of industrious, frugal habits, and little disposed to wild speculation, with great faith in the richness of this mining district. Official figures place the valuation of the county at $1,398,221, as against $16.841 in 1883.

The social and moral education of the community is good. It has five public schools. The county has a future of fine promise in agriculture, having over 500,000 acres available land, rich in soil and with plenty of water, besides 100,000 acres of good grazing land. Ten thousand acres are now under ditch and cultivated, producing a fine average yield of the grains and vegetables. The average yield of wheat is placed at 30 bushels per acre. There are three saw-mills, and the present output in lumber is 3,000,000 feet per year. In the

mining industry lies the greatest source of wealth for this county. The character of the mineral formations is silver, gold and lead, in fissure veins. There are also a number of very promising placer fields along the streams. The principal mining districts are the Upper San Miguel, Lower San Miguel, Trout Lakes and Iron Springs. The first discoveries were made in 1876. The estimated output for the entire county this year (1890) is $2,500,000 in gold and silver. The gold fields of San Miguel are developing fabulously rich veins, and mainly on this account a three-fold increase of output is expected during the coming year. The mineral resources in that section are said to be inexhaustible, and in their infancy of development. The same might be said of their discovery, for new strikes of rich bodies of mineral are of almost daily occurrence. It is a vast and promising field for the prospector. With the railroad facilities given by the completion last year of the Rio Grande Southern, vast bodies of low-grade ores will now find a market, and the production will greatly increase. No county has had to contend against greater obstacles in developing the mines and conveying the more profitable ores to market. Now these obstacles are removed, and a great increase may be expected. The climate is mild and healthful, the scenery is delightful and of peculiar interest, and Trout Lakes, at an elevation of 12,000 feet, is a charming place of resort for the health and pleasure seeker.

Sedgwick.

The county of Sedgwick, named in honor of Gen. Sedgwick, occupies the north-east corner of the State, bounded on the north and east by Nebraska. It is an agricultural and stock-raising county. The larger part lies beyond the reach of irrigation, being in the "rain-belt" area, where crops are grown without irrigation. The Platte river, however, courses through the north-west quarter affording irrigation for the valley lands, which are very fertile and highly productive. The area of the county is 576 square miles; population, 1,500. The county was organized in 1889. Julesburg, situated at the junction of the Union Pacific main line and the Union Pacific Short Line, is the county seat, with a population of 800, mostly from Nebraska and Iowa. The soil is a rich sandy loam, with a gently undulating surface, productive of all crops. Wheat and corn are the leading crops, and the soil is said to be eminently suitable for the culture of the sugar beet, being similar to the sugar beet lands of Nebraska. The assessed valuation of Sedgwick county is $759,945; estimated real valuation, $1,800,000. The county has twenty-four public schools, and the church organizations are Congregational, Presbyterian, Methodist, Catholic and Evangelical. The lands are divided by estimate as follows:

Total acres available for agriculture	300,000
Available for grazing	68,000
Unoccupied Government land available for agriculture	45,000
School land	12,900

The total acreage cultivated, irrigated and non-irrigated, 50,000. The average yield per acre in various crops is stated at: Wheat, 20 bushels per acre; oats, 45; rye, 17; barley, 15; corn, 40. With a vast open range, ample provision for winter feeding and convenience of railway transportation, the county possesses every advantage for live-stock and cattle raising especially as a thriving industry, the dairy products being a considerable part of the profits. The combination of agriculture and the live-stock business, gives the assurance of permanency and prosperity to the people with whom the first few years of settlement could have been but little more than an experiment, in view of the doubts and disputations that then existed concerning the possibility of farming in Eastern Colorado without the aid of irrigation. Out of this confusion has come great industrial thrift, the stability and progress of all enterprises and a good order of society.

Summit.

Situated on the Western Slope at an altitude of 9,000 feet, the area of 650 square miles, which constitutes Summit county, forms the cone of the Continent. As the name implies, it is the Summit county of the range. Grand county bounds it on the north, Lake county on the south, Clear Creek and Park counties on the east, and Eagle county on the west. This is distinctively a mining county. The first settlement was made by gold miners in 1859. It is principally mountainous, with the valley of the Blue river in the center, where a little agriculture is carried on upon the ranches. The county was organized in 1860, with Breckenridge as the county seat, the town being important as the principal mining camp of the county for the production of silver and gold. The Breckenridge district has long been a steady gold producer, and this and other camps are rich in prospect for the yellow metal. Total population of county, 3,000; Breckenridge, 2,000; Kokomo, 400; Robinson, 100; Dillon, 200; Montezuma, 150; Rathbun, 150.

The mountains are covered with an abundance of pine. The streams are the Blue river, Snake river and Ten Mile creek. Assessed valuation, $1,000,000; real valuation, $2,500,000. There are eight schools and three churches, Catholic, Episcopal and Methodist, in the county. Most all of the accessible valley lands have been taken as homesteads, and the people living on the ranches raise such products as hay, potatoes, cabbage, turnips, hardy vegetables and a small amount of oats.

Summit has maintained its position as a substantial mining county since its more extensive settlement in 1880, with considerable advancement in discovery and development, and maintaining also a fair pro-

portion in the general average of output. For 1891 and '92 the output was:

	1891	1892
Gold	$ 125,000	$ 125.000
Silver	1,325,000	1,125 000
Lead	.....	400,000

Number of smelters in county, 1; stamp mills, 13; concentrating and reduction works, 17; number of men employed in smelters, 60; in stamp mills, 40; concentration and reduction works, 75; average wages paid miners, $3. The whole county is divided into mineral districts, and while the county is especially noted for its production of gold, the principal metals are gold, silver, lead, copper and zinc, and the number of developed mines are very numerous, with many prospects that will add greatly to the future mineral wealth of the State. In addition to mining there are a number of industries which add a great deal of revenue to the county. Lumber mills are located at Breckenridge, Frisco, Dillon and Montezuma; a number of charcoal kilns are located at Frisco, and there are numerous lime beds in the county. White and variegated marbles are found in numerous parts of the county.

The climate is healthful, with plenty of good water. Soda Springs near Dillon and other parts of the county, and Iron Springs near Montezuma and near Breckenridge, and there are good accommadations at the mining towns for the health and pleasure seeker.

Washington.

The county of Washington, one of the thriving north-eastern counties of the State, was formed in 1887, from the eastern portion of Weld, the banner wheat and potato producer of Colorado. It is exclusively an agricultural and stock-growing county, having special advantages for sheep, and promises a large contribution to the future wool industry of Colorado. The county has an area of 1,080 square miles, and is a rich, rolling upland prairie. It is one of the pioneer counties in what is known as the "rain-belt" area, there being but little water for irrigation. About 25,000 acres of its Territory in the north-western portion, are accessible to ditch; the remainder is dependent upon rain-fall for farming, and crops of all small grain, hay and vegetables, have been successively raised for a number of years. The Burlington and Missouri railway runs centrally through the county, and it was the first and chief factor in settling the country, and developing its agricultural interests. The town of Akron, which began its existence as a division station on this railway, is the principal town and county seat, with a population of about 1,200, the census of 1890 giving the county credit for 2,301. Since that time large numbers of new agricultural settlements have been made and the population has

been considerably increased as the growth of the towns in forming settlements will show. Otis, with 300, and Hyde, with 200 inhabitants, are the other principal towns of the county.

The assessed valuation of Washington county in 1892, was $915,048, representing a real valuation approximating $2,500,000. Number of acres of agricultural lands assessed, 12,207; number of acres of grazing lands assessed, 214,618. These figures, however, do not represent either the agricultural or grazing areas. Of the half million acres or more in the county, not less than two-thirds are available either as pasture lands or agricultural, and have proved highly productive wherever cultivated. The combination of agriculture and stock-raising is the chief source of the county's wealth. The principal crops are wheat, oats, hay, potatoes and vegetables of all descriptions. The farms thus far have been located within convenient range of the railway, principally in the central and western portion, where it has been demonstrated the rain-fall is seasonable, and with deep ploughing, the soil being retentive of moisture, yields an average per acre of wheat, 20 bushels; oats, 30; potatoes, 150 to 200. The assessor's report for 1892, gives the live-stock statistics as follows: Cattle, 4,478; horses, 1,289; sheep, 6,263, but as is customary, these figures represent only about two-thirds the real numbers. With an abundance of good pasturage and the provision that can now be made for feeding from the farm the advantages for live-stock are almost without limit, and the country is especially favorable to sheep wherever winter shelter can be provided. The soil is covered with a medium growth of buffalo grass, with hills extending along the southern border of the county. Among these hills are valleys, in which large quantities of grass are cut each year, and they afford excellent pasturage for stock.

The amount of unoccupied Government land available for agriculture is estimated at 300,000 acres; unsold State lands available for agriculture, 16,000 acres. These lands are easily obtainable for settlement at the Government price of $1.25 per acre, and from $2.50 to $5.00 for State lands, while deeded lands can be obtained at exceedingly low prices and on the easiest terms, in the midst of settled agricultural districts.

The county is well provided with schools and churches, the Methodist, Presbyterian, Christian and Catholic organizations being represented, principally at Akron, which is the principal market and shipping point, and also the industrial headquarters of the county. In the adjacent country there is a variety of material of manufacture which will be utilized with profit in due time. A number of well-defined discoveries of fire-clay, limestone, plaster of paris and cement-rock have been made, and the quality of brick manufactured is without a superior for hardness and durability.

In common with the rest of the State, Washington county is underlaid with a great supply of wholesome water, easily accessible. The roads are natural roads the year round, hard, dry, free from mud

and dust alike. So pure and healthful is the atmosphere, that the climate is proving a panacea for those afflicted with rheumatism, or with throat and lung diseases, or the various forms of catarrh. Medicines are quickly discarded, and the sufferer regains health and strength.

Accessions to the county's wealth and population are being steadily made year after year, and it will always be a substantial agricultural and stock-raising country, with convenient markets for all manner of produce.

Weld.

Weld county is the best wheat and potatoe county in the State, has the best and surest water supply, is settled by people from the best portions of the United States, has a fine climate and is in every way a desirable place for a home. These are the inducements the people of that favored locality present to the new comer. The county has been noted because of its conspicuous association with the history of western settlement, and it was while under the fostering care of the renowned Horace Greeley that the Greeley colony in 1870 made a settlement in Weld county and gave to that community a local capital, and to Colorado the prosperous city of Greeley. In his mind's eye Mr. Greeley beheld this section when he penned his oft repeated admonition to the eastern young men to "go west and grow up with the country." Weld county formerly embraced all the territory now comprising seven counties in the north-east part of the State. Its territory has been gradually reduced till its boundaries are circumscribed by the county lines of Boulder and Larimer on the west, Arapahoe on the south, Morgan and Logan counties on the east and the new State of Wyoming on the north. The county takes it name from Louis Landgard Weld, the first Territorial secretary, and was organized in 1863. It has an area of 4,104 square miles and has a population of 11,741. The first assessed valuation was $240,000; last valuation, $8,214,195; real valuation of $25,000,000. There is no debt and the treasury shows a surplus. Greeley, the principal city, has 4,000 population; Platteville, 500; Eaton, 100; Windsor, 250; Evans, 250; Lupton, 250; and Erie, 1,000. Farming, stock raising, mining and manufacturing are the industries pursued. The county is well watered by the South Platte, Cache la Poudre, Big and Little Thompson, St. Vrain, Boulder, Box Elder and Lone Tree rivers. There are no natural forests, but along the valleys through which these rivers flow there are quantities of native timber. The soil is a rich sandy loam, well watered by a thorough system of irrigating canals and yields all kinds of farm products. The county has 98 public schools with a school population of 3,450; value of school property, $123,126; number of teachers 98. In addition, the City of Greeley has the State Normal School and the Greeley Business College. The churches—Congregational, 4; Methodist, 4; Baptist, 3; Presbyterian, 2; Adventist, 2; Unitarian 1; Church of Christ, 1.

Weld county has great facility for agriculture. It is estimated that there are 2,000,000 acres of cultivable land, which embraces the larger part of the county. Of this area there are 600,000 acres classed as grazing land which, with ample water, would be agricultural. Over 200,000 acres are under ditch; more than 100,000 acres are irrigated, and there are 60,000 acres under ditch and unoccupied. The estimated yield of principal crops for 1892 was, wheat; 1,000,000 bushels; potatoes, 2,000,000, bushels; alfalfa, 26,525 tons.

Average yield per acre, leading crops for 1892:

Wheat, bushels	25
Oats, "	35
Corn, "	30
Barley, "	35
Alfalfa, tons	5
Clover, "	3
Timothy, "	2
Red Top, "	2
Potatoes, "	5
Beets, stock, tons	10

Live-stock statistics as reported by assessor of the county:

Cattle	27,910
Horses	1,817
Mules	67
Sheep	50,700
Swine	2,640

The wool clip for 1892 is estimated at 80,000 pounds.

The county has three dairies. Dairy products, 1891–1892:

	1891	1892
Butter, pounds	150,000	225 000
Butter, value	$ 37,500	$ 56 250
Cheese, pounds	6,000	12 000
Cheese, value	$ 720	$ 1,440

There is a great abundance of coal in Weld county, the mining of which gives employment and sustenance to 2,500 people. The first discoveries were made in 1865, and there are now fourteen mines in operation with an annual output of about 50,000 tons. At Erie, in the south-western part of the county are the largest coal bodies yet developed, and these are inexhaustible. Building stone of fine quality is also found in abundance.

The railroads of the county are the Burlington and Colorado, the Colorado and Wyoming, Denver, Utah and Pacific, Denver Pacific, Denver and Boulder Valley, aggregating 237 miles. Weld county claims no health resorts, but is situated in an altitude beneficial to all. The average death rate is 2½ per cent. Greeley, especially is a desirable abode, having an abundance of shade and pure water. The city has a number of manufactories, such as irrigating pump works, machine shops, pickling establishments, flouring mills, tile works, brick yards, door and sash factories, planing mills and other important establishments. Eaton also has a large flouring mill. Bee culture is an important industry, and last year the estimated amount of

honey produced was 60,000 pounds. The total acreage in grain this year is estimated at 250,000; fruit, 600 acres; and the estimated value of product of market garden last year was $200,000. Small fruits were also abundant. The bulk of this product was sold in the markets of Wyoming, Utah, Montana, Denver and the mining towns. The average cost of water by rental per acre per season is $1.50; a perpetual water right for eighty acres is worth $1,200, with an assessment of 12½ cents per acre. The crops of 1892 fairly illustrates the great fertility of soil in Weld county. Alfalfa is one of the leading crops in volume and value, and the last year's yield was enormous. Besides these all manner of field crops were raised, and in all crops there is a large annual surplus for the markets.

Yuma.

Yuma is another of the tier of eastern Colorado counties, situated in the north-east part, and in many respects will bear a description similar to other parts of the non-irrigated section devoted exclusively to farming and stock-raising. Having an area of 1,260 square miles, the west half is level, and the east half rolling prairie. It was organized in 1889, and now has a population of 3,500. The principal towns are Yuma, the county seat, with a population of 600, and Wray, 400. Climate, mild; elevation, 3,600 feet.

As the settlements are all new, and only limited advancement in general industries has been made, as a consequence the efforts of the people have been directed mainly to the establishment and maintenance of their homestead entries, meanwhile making a good beginning in stock-raising, wool-growing, the dairy interests, etc., and as a result of increased farming operations, quite a considerable surplus of wheat, corn and hay was raised in the county in 1892.

The people who have established the county and its industries after a number of years of experiment, under the necessity of dependence upon rain-fall for the success of their crops, are gratified with present results, and have a growing confidence in the future agricultural possibilities of that part of eastern Colorado.

A fair crop was raised the first year. The second year was without increase, owing to the drouth; the crop was doubled in 1891, and nearly doubled again in 1892. The rate of advancement, while not very rapid, has been steady, and of a healthful nature, the first-comers generally remaining. Actual settlement began in 1889. In 1890 the population of the county was 2,600; in 1891, about 3,000, and 3,500 in 1892. In 1889 all land except the seggregated acres of State lands, were Government possessions at $1.25 per acre. Lands now under private ownership range from $5 to $20 per acre.

The amount of land in the county available for agriculture or for grazing is estimated at 806,400 acres; total acres cultivated, 45,000; total acres of unoccupied Government land subject to entry, 100,000; total

number of acres of unsold State land available for agriculture in county, 44,800. Average price for deeded land, $6 per acre. The soil is a dark, rich, sandy loam.

Estimated average yields per acre:

Wheat, bushels	20
Corn, "	24
Rye, "	18
Alfalfa, tons	4
Millet, "	2½
Flax, bushels	18
Sorghum, tons	3
Potatoes, "	5
Beets, Sugar, tons	3½
Oats, bushels	49
Barley, "	35
Buckwheat, bushels	16
Timothy, tons	1½
Hungarian Grass, tons	2½
Sugar Cane, tons	3
Broom Corn	⅓
Beets, stock, tons	8
Turnips, bushels	250

Markets for surplus products, Denver, Omaha and Chicago, *via* Burlington, Missouri railway, which passes through county.

Estimated total products of county in 1892: Wheat, bushels, 172,380; oats, bushels, 87,762; corn, bushels, 431,862; barley, 12,378; rye, 6,500; buckwheat, 2,109; alfalfa, tons, 800; native grasses, 4,765; millet, tons, 6,874; sugar cane, tons, 4,173; sorghum, gallons, 3,240; broom corn, tons, 245; beans, cwt., 532; potatoes, cwt., 30,125. Average cost of labor per month on farm per hand, $20 and board: Assessed valuation of county, $1,250,000; real valuation, $2,500,000; county debt, $13,700; State tax, 4½ mills; county tax, 15 mills; school tax, 5 mills; number of schools, 37; school population, 700; value of school property, $20,000; number of teachers employed, 41; average wages paid teachers per month $45. Church organizations—Catholic, 2; Presbyterians, 4; Methodist, 4; Lutheran, 3; Baptist, 1.

Yuma county was originally a part of the great cattle range of Colorado, but both the territory and the number of animals have been greatly contracted owing to farming settlement, the live-stock industry becoming a part of the farm itself. But it has great possibility under this combination. Estimated number in county: Cattle, 6,000; horses, 2,000; mules, 125; dairy cows, 2,000; sheep, 3,200; swine, 2,000. Though these numbers are comparatively small, the possibilities of the wool and dairy interests are great, while the number of swine given is significant in view of increased possibilities of corn culture. Estimated annual wool crop, 20,000 pounds; prevailing breed of sheep, Merino; manufactural standing of wool, good; price, 16 cents per pound; number of creameries, 2; cheese factories, 2.

Estimated amount and value of butter and cheese manufactured, 1891 and 1892:

	1891	1892
Butter, pounds	200,000	250,000
Butter, value	$ 40,000	$ 50,000
Cheese, pounds	20,000	30,000
Cheese, value	$ 2,000	$ 3,000

Profit per cow per season for butter, $21.

There are three roller flouring mills in the county, with a capacity of 100 barrels per day. Capital invested, $45,000. Yuma county offers inducements for a canning factory, beet sugar factory, broom factory, woolen mills and other establishments useful in a farming community.

Among the special inducements offered to home seekers are the healthful climate, cheap and excellant land for homestead entry, easy farming with profitable crops, and with the same amount of capital used in the east for rental the farmer can own his own home.

Forestry.

THE timber lands comprise 10,630,000 acres, and the greatest extent of the more useful timbers grow upon the mountain sides, in the valleys and upon the high rolling plateaus. A spur of the Rocky Mountains, known as the North and South Divide, which extends over fifty miles into the mid-eastern part is covered with pine, and another large timbered tract extends through the southern portions of Las Aanimas and Baca counties, while some of the best timbers are found in the south-western part, in Archuleta and La Plata counties, and some of the largest forests exist in the northern portion of the State. The most useful timbers for general purposes are the yellow and white pine and white spruce, and all these are abundant. White and yellow pines are the predominant species and are used extensively in building, entering largely into general superstructure, and are used almost exclusively in the wooden buildings of the smaller towns and cities. Piñon, which grows promiscuously, is largely used for fuel and the production of charcoal. Cottonwood, oak, cherry and other timbers of small growth and less value occupy the borders of the small streams. Large areas of the quakingasp cover the high mountains with a dense growth, generally replacing the coniferous trees where they have been destroyed by fire. Small stunted junipers cover the high plateaus of South-western Colorado. The lower mountain slopes and the south-eastern part of the State furnish coarse lumber suitable for railroad ties, for fuel and timber for mining purposes.

Colorado is furnished with a most delightful variety and luxurious growth of ornamental trees and shrubbery. Of the evergreens, twenty-one varieties have been counted. The favorite varieties of evergreens are the blue, red and Engleman spruces, the blue, red and white cedars and junipers. Among the native pines are the yellow and pondorosa varieties, popularly used for decorating lawns. Of other trees and plants that grow in Colorado, chiefly as trans-plants, are the elm, honey locust, cut-leaf maple, pimple-leaf elm, laurel-leaf willow, the Norway sugar maple, the catalpa, the kempseri, the linden, the mountain ash, the balm of Gilead, the weeping willow, the black cherry and the red oak.

A deep interest has been awakened in timber culture, and apart from the numerous orchards that have been planted in all fruit-growing sections of the State, considerable efforts have been made to cultivate forest trees on the plains.

Gems of Colorado.

GEMS and precious stones are abundant in the mountains of Colorado, and every mining town is a market for them. In Denver and other cities they sparkle in the show windows of the jeweler and form a part of the stock in the museums and curio establishments. The labor involved in the collection, dressing and mounting of these stones has given rise to an industry of considerable importance. The varieties are very numerous, embracing almost all the glittering beauties of the world, including the sparkling crystals that glitter like the diamond. The topaz, of all colors, and the agate are probably the most numerous of all precious stones. The Colorado rubies are regarded as the most beautiful. In some portions of the State garnet crystals are found weighing from one ounce to three or four pounds. The aqua marine, of a light blue or sea green color, is found at an altitude of 12,000 to 14,000 feet, varying in size from one inch to four inches in length, and one-tenth of an inch to one inch in diameter. Phenacite, of the colorless, transparent variety, is found in considerable quantity. It is one of the most brilliant stones known, occasionally showing prismatic colors by artificial light. The topaz, in its various colors, has been found of such quality and size as to vary in price from 50 cents to $100 each. The zercon is a gem sometimes known as jargon or jargoon, jacinth or true hyacinth. These are among the most beautiful crystals known, owing to their transparency, brilliancy and perfection. Among other choice stones found in abundance are the opals, amazon stones, the sapphires, green spinnels, etc. Semi-precious stones, such as smoky topaz, cairngorm, chalcedony, agate, moss agate, yellow, brown and red jasper, blood stone or heliotrope, cornelian, cats-eye, onyx, sardonyx, rock crystal, agatized or petrified wood, etc., all found in considerable quantities. These gems in their different forms are used for settings in all kinds of jewelry, for paper weights, charms, cabinets and ornaments of many descriptions.

Commercial and Manufactural Minerals.

OF minerals that are classed as manufactural and commercial, there is such a variety and abundance, and so distributed among the counties that to enumerate or locate them would exceed the possibility of sufficient space in this work. In these resources alone it is said the State possesses wealth sufficient for the maintenance of its population. These materials are used at all manufacturing points in the State, and yet it can scarcely be discovered that the immense deposits, so numerous, have been disturbed. The leading materials are such as fire-clays of all varieties, kaolin, silica, gypsum, lime, cement, clays for pressed brick, mineral paints, mica, asbestos, mercury, native cryolite, sulphur, dolomite, graphite, carbonate of soda, zinc, kalomite, cinnabar, bismite, and hundreds of minerals with a confusion of technical names, familiar only to the chemist and mineralogist, all having their uses and their value, and all to be reckoned among the immense resources of the State.

Apiary.

BEE culture has grown within the past few years from an experiment to a business of considerable profit. The possibilities of honey production are without limit. Alfalfa, so abundantly grown in all parts of the State, is unrivalled as a honey-making plant, and would alone be sufficient, but there are the red clovers, the sweet clovers, in great abundance; fruit blooms of all kinds are becoming more plentiful with the advancement of fruit culture, while endless varieties of wild flowers bestrew the mountains and the plains. From a recent small beginning it is estimated that there are now 6,000 colonies of bees in the State, producing upwards of 300,000 pounds of honey, of the finest quality.

One Advantage of a Dry Country.

PEOPLE living remote from the arid regions, who have never seen an irrigating ditch and know but little about the processes or the superior benefits of irrigation, have a feeling which is quite natural, that they would not like to live in a country where they cannot see the rain.. But this is an erroneous impression which may be corrected. We have an annual season of rain, which comes at a time of the year when most needed and lasts long enough to be enjoyable. During these periods it rains frequently and in great abundance. After the rainy season then comes the dry part of summer with its constant flood of brilliant sunlight. It is during this part of the summer that the irrigating canals are brought into service. It often occurs that during the dry season in Colorado, there is a drouth in many of the Eastern States and crops are parched and destroyed. But with the irrigating system in Colorado no such thing is possible. On the contrary, whether the rain comes in season or comes not at all, there is never such a thing as failure of the crops, while the farmer can so use the water that he can manage the thrift of his crop, prolonging its growth or causing it to ripen at a time to suit the necessities of harvest. The dry weather is regarded as neither disagreeable nor an inconvenience, but on the contrary it gives one immunity from the caution that is always necessary to protect one from the uncertain elements in rainy countries. And again there is immunity from the inconvenience and the disagreeable features of moving about, whether on foot or by conveyance in mud and rain, for full one-third of the year. The feeling of freedom which experience brings in Colorado is that we do not wish to be bothered with the fickle elements of the east that bring in their train inconvenience, disappointments and delays in every business or social plan or undertaking. Here we can always rely upon our weather, having no fear of the latter rains of summer, and enjoying a sunny sky throughout the delightful months of autumn, with none of those long, wet gloomy periods that prevail throughout the valleys of the Eastern half of the continent.

The Water Supply.

IT has been the experience of Colorado's settlers as they advance in industrial development, that all things requisite for their welfare develop themselves always in the time of need. It may be assured that the mountains of the State contain sufficient water to irrigate all occupied agricultural lands for many years to come. Should the present means of utilizing these waters fall short, the measures are already on foot to supply the deficiency. Numerous reservoirs have within the past few years been constructed in the mountains, at the foot-hills and at various points far out upon the plains. There are many similar projects going forward, looking to the future. Some of these reservoirs are of enormous size, containing a supply for many thousands of acres. For the most part these new projects are located in new and sparsely settled portions, where it is certain the beauty of the country and the great fertility of soil will attract the future settler in Colorado. These reservoirs are constructed for the purpose of storing water in winter, and also to catch and save the waste waters of summer. Thus they replenish the irrigating ditches when they are exhausted during the dry season. There is sufficient water in the mountains to supply all the reservoirs that may be constructed for many years to come. It has long been the aim of the Federal Government to establish such reservoirs throughout the arid region. But the impatient energy and enterprise of Colorado's people cannot await the slow process of National legislation. Already by individual effort some of the most gigantic enterprises of the kind have been completed and the water will be available in 1893. It is maintained by scientific authorities that underneath all these great plains is a vast subteranean lake, and it has been often suggested that this body of water would be our final recourse. Should such a necessity ever arise, no one need be impatient or doubtful about the means to be employed in bringing this water to the surface. All that is necessary is to trust to the genius and indomitable will of the American people to accomplish anything that has about it the shadow of remotest possibility. Both the invention of the means and the work of bringing water out of the depths to irrigate the plains will be an easy matter whenever the time comes that it is necessary for the welfare of man. However, with present provisions, there is a supply for the future millions of population.

The Legal Distribution of Water.

THE water of the State is the property of the people. Under the law, a company, or an individual constructing a ditch from a natural stream, is considered a common carrier, and, under the law, may receive a certain amount of money for conveying this water from its natural bed out over the country to certain tracts of land.

The first ditch to appropriate water from any natural stream, said ditch having filed a statement of this fact with the county clerk, is entitled, whenever there is any scarcity of water in that stream, to the first right of the water, and in concession as they follow, other ditches are entitled to their proportionate supply. These are called "priorities."

By the laws of the State, the first ditch constructed has a priority right to the water appropriated, and no canal tapping the stream nearer its service can divert the water of the older ditch. The laws provide for measurement, proof of quantity and date of appropriation, so that there may be no controversy as to whom the water rightfully belongs. Every equitable safeguard which experience suggests is made to protect the rights of those who invest in these enterprises.

The rate to be charged for water by the year is regulated by the board of county commissioners for each county, and the law compels a ditch company to give water to any applicant at the price established by the board of county commissioners, whenever the water commissioner of that water district shall determine that there is more water in the ditch than has already been purchased, leased or delivered.

There is both the perpetual and the rental water-right plan in vogue in Colorado. Rentals range from $1.50 to $2.50 an inch per season. Fifty statutory inches are considered sufficient to irrigate 80 acres of land, or according to other measurements, 1.44 cubic feet under a 5-inch pressure per second of time, will convey sufficient water to cover 80 acres of land.

The perpetual rights vary from $10 to $12.50 for enough water to cover an acre of land forever. In addition to this price, which gives perpetual right to the water for a certain number of acres mentioned, companies charge from 50 cents to $1.25 an acre per year to maintain a canal and pay its operating expenses.

The new-comer, seeking a home-farm, naturally locates his land, first, contiguous to the stream from which he may take out his own ditch, and second, contiguous to a ditch already built. In the first instance, he absolutely controls his own water supply from the stream, and in the second instance, he joins a co-operative associa-

tion, so to speak, who divide among themselves the water passing through the ditch, whence they expect to receive their supply. In the first instance, the locator builds and maintains his own canal, or ditch; in the second instance, he buys his water, and pays someone else for maintaining the ditch.

Sources of Revenue.

Following is an abstract of assessments, rate of taxation, etc., showing the assessed and estimated real valuation of the property of the State for 1892:

ASSESSED VALUATION OF LIVE-STOCK, 1892.

	NUMBER.*	ASSESSED VALUATION.
Cattle	696,839	$ 5,470,741
Horses	197,470	4,765,611
Mules	9,701	332,614
Asses	2,946	22,838
Sheep	693,249	743,582
Swine	21,586	48,992
Goats	3,336	3,882
All other animals	9,170	29,761
Total assessed valuation of live-stock	.....	$11,418,021
Estimated real valuation	.....	34,254,063

*The number of cattle should be increased over assessor's returns by one-third the number of horses should be advanced to 125,000, and sheep to 1,500,000, according to official estimates of the Cattle Grower's Association.

ACREAGE AND ASSESSED VALUATION OF LANDS, 1892.

	ACRES.	ASSESSED VALUATION.*
Agricultural lands	3,636 242	$ 23 295,207
Grazing lands	8,327 015	13 336,353
Coal lands	59,053	2,589,623
Improvements on public lands	.....	1,428,392
Improvements on lands	.....	6,203,659
Town and city lots and improvements	.....	37,195,757
Totals	12,022,310	$ 54,048,991

*The above figures represent about one-third of estimated real value.

MISCELLANEOUS.

	*Assessed valuation.
Assessed valuation of mining property and gross output	$ 7,118,223
Amount of capital employed in manufactures	1,352,013
Assessed valuation of railroads, (4,657.66 miles in State)	31,578,535
Assessed valuation of telegraph and telephone lines, (4,944 miles in State)	266,185
Assessed valuation of merchandise, diamonds; jewelry, gold and silver plate, etc	102,435
Clocks and watches	213,043
Bank stock, money and credits, (bank stock or shares)	4,727,982
Amount of money and credits	4,998,350
Vehicles of every description, (41,906)	1,090,009
Musical instruments, (9,381)	529,474
Household property	867,115
All other property	3,688,031
Total	$ 56,631,395

*The mileage of railroads, telegraph and telephone wires is correctly reported, and the assessment is made according to fixed rates per mile. For all other articles under this head the figures representing valuation may be multiplied by three to obtain an estimate of real valuation.

RATE OF STATE TAXATION.

The general revenue levy, applied to each county in the State (1891-92) was $2\frac{11}{30}$ mills, the general and special levies being distributed as follows:

General revenue levy	2 11-30	mills
Mute and blind levy	⅙	mill
University levy	1-5	mill
Agricultural college levy	⅙	mill
School of Mines levy	⅙	mill
Insane asylum levy	1-5	mill
Stock inspection levy	1-15	mills
Capital building levy	½	mill
Normal school levy	⅙	mill
Ute war debt levy	½	mill
Interest on capital building bonds levy	2-15	mills
Military poll tax per capita	$ 1	00
Total tax levied (1892)	$ 1,040,541	58
Total assessed valuation	236,884,449	48

Following is the estimated general revenue fund income for the fiscal years 1893–94. In making this estimate the State Auditor states officially that it is made upon a basis of one-third of the actual valuation, as has been the rule in the past:

Assessment of 1893, estimated	$ 245,000,000 00	
Assessment of 1894, estimated	255,000,000 00	
Total		$ 500,000,000 00
Total tax collectable each year		$ 1,124,166 70
Fees from Secretary of State, two years	$ 140,000	
Insurance department	65,000	
Interest on deposits	70,000	
Receipts from all other sources	15,000	
Total		$ 290,000 00
Total estimated income of revenue		$ 1,414,166 70

INCREASE IN VALUATION.

The following shows the increase in the assessed valuation of property in the State for the eight years from 1885 to 1892:

1885	$ 115,420,130 90	1889	$ 193,254,127 38
1886	124,269,710 06	1890	220,544,064 62
1887	141,323,684 37	1891	231,405,296 04
1888	168,812,246 93	1892	236,884,449 48

Rate of Wages.

The schedule of wages paid in Colorado in the various branches of manual skilled labor is higher in most instances than the wages for similar vocations in other states, while in recent years by the home production of many of the necessaries, the cost of living has been appreciably reduced.

SCHEDULE OF WAGES PAID IN COLORADO, 1892.
TRADES, ETC.

	PER DAY
Awning makers	$2.50
Barbers	1 65 to $3.00
Bakers	2.25 to 3.00
Bench hands (woodworkers)	2.25 to 3 00
Blacksmiths	2.50 to 3 50
Blacksmith helpers	1 75 to 2.50
Boiler makers	3 00 to 4.00
Boiler makers' helpers	1.75 to 2.75
Boot and shoe makers	2.50 to 3.25
Bookbinders	3.00
Brewers	2.60 to 4.00
Bricklayers	3.50 to 5 00
Brick moulders	2 50 to 3.50
Brick laborers	2 75 to 3.25
Broom makers	1 50 to 2 50
Butchers	2.50
Cabinet makers	2.50 to 3.50
Carpenters	2.75 to 3 00
Carriage makers	2.50 to 3 00
Cigarmakers	2.00 to 4 00
Compositors (regular) week	15.00 to 20.00
Carriage painters	2 00 to 4.00
Cooks (with meals)	1.50 to 5.00
Coopers	3.00
Cornice makers	3 00 to 3.50
Engravers	3.50
Grainers	5.00
Granite cutters	4 00
Harness makers	2 00 to 2 50
Hatters	2.50 to 3 00
Hodcarriers	2.75 to 3.00
Horseshoers	$2 50 to $3.50
House painters	2.75
Iron moulders	3 25 to 3.50
Laundrymen	1 65 to 2.50
Lead glazers	2 50 to 3.00
Linemen	3 00
Macaroni makers	1 75 to 2.00
Marble cutters and polishers	3 00
Millers	2 50 to 3.00
Machine woodworkers	2 25 to 3.25
Machinists	2.50 to 3.50
Paper hangers	3.00 to 3.25
Pattern makers	3.25
Plasterers	3.50 to 4.50
Plumbers	3.00 to 4.50
Printing pressmen	3 00 to 3.50
Sign painters	2.75 to 4.00
Soapmakers	3.00 to 6 00
Soapmakers' helpers	2.00 to 3.00
Steam and gas fitters	3 50 to 4.00
Stone cutters	3.45 to 4.75
Stone masons	4 00
Stationery engineers	2.00 to 3.75
Stereotypers	3 50
Tailors	2 00 to 3.50
Tile layers	4 00
Tinsmiths	2 00 to 3.25
Upholsterers	3 00
Waiters (with meals)	1 00 to 2.00
Watchmakers	2 50 to 6 00

CLERICAL LABOR.

Retail clerks and salesmen	$10 to $ 25 per week.
Shoe clerks	12 to 20 "
Dry goods clerks	6 to 20 "
Office clerks	10 to 20 "
Clerks in Federal and State offices	75 to 100 per month
Typewriters and stenographers	50 to 100 "
Hotel clerks (including board)	30 to 75 "
Bank clerks (average)	60 to 100 "
Time keepers	75 "

MISCELLANEOUS.

Ranch hands (average, with board)	$25 per month.
Laborers	1.50 to $2 00 per day.
Teamsters	40 to $60 per month.
Janitors	40 to 90 "
Porters	40 to 75 "
Quarrymen	2.25 per day.
Quarry foremen	3.50 per day.

Coal miners' wages differ in different localities, ranging from $2.60 to $3 00 per day; $12 to $24 per week; 50, 65 and 75 cents per ton.
Cable car gripmen and conductors . . . . . 20 to 25 cents per hour.
Electric car motorneers and conductors . . 17½ to 25 cents per hour.

The daily earnings of men employed in and about metalliferous mines differ according to locality and nature of work. In some camps miners earn from $3.50 to $4.50; average range, $3.00 to $3.50 per day. Foremen in mines receive from $4.00 to $7.00 per day, while "top" men receive from $2.25 to $3.00 per day.

FEMALE WAGE EARNERS.

OCCUPATIONS.	WAGES—PER WEEK.	
	LOWEST.	HIGHEST.
Milliners	$ 7 00	$ 15 00
Milliners, foreladies	18 00	25 00
Dressmakers	6 00	18 00
Dressmakers, foreladies	10 00	25 00
Saleswomen	3 50	12 00
Seamstresses	3 00	9 00
Typewriters	5 00	18 00
Telegraph operators	8 00	15 00
Office clerks	4 00	15 00
Cashiers	4 00	15 00
Cash girls	1 50	2 50
Bookkeepers	6 00	15 00
Shirt makers	4 00	10 00
Laundry workers	3 00	6 00
Factory girls	2 40	7 50
Domestics (with board)	3 50	8 00
Chambermaids (with board)	3 50	5 00
Supernumeraries (theaters)	5 00	7 00
Laundresses	4 00	10 00
Confectionery workers	4 00	6 00

Number of females actively engaged in various occupations and dependant thereon for livelihood, 15,752, including teachers and other professionals and exclusive of amateurs.

Summary of Advantages.

The combination of industries in Colorado form a very surprising summary of inducements for parmanent residence in this State. In its unlimited resource of gold, silver, lead, copper, iron, oil, coal, marble and stone, we find the material that forms the basis of diversified employment for a large population.

In the fertile soil of millions of acres of land yet unoccupied there is the assurance of a great agricultural future.

For manufacture the raw material exists in an abundance beyond the possibility of computation, while the State occupies a position that will make it the manufacturing center of the great west.

It possesses rare advantages for the live stock industry in all departments, and especially is it adapted to the breeding of blooded horses and fine cattle.

Fruits of all kinds indigenous to the temperate zone grow in many parts of the State, most prolific, luscious and beautiful. This will become one of the greatest industries of the State.

The climate is uniformly mild and healthful, and has a world-wide fame for its curative virtues in lung diseases and many other human ills.

Colorado has many delightful health and pleasure resorts located in portions of the State where hot and cold mineral springs abound.

Under the system of irrigation there are no crop failures in Colorado, and the long dry spells which in the East become destructive drouths pass by unnoticed.

The storms are seldom of a destructive character and cyclones are unknown in this country.

In summer and winter we have immunity from the extremes of heat and cold, while cool nights prevail throughout the warmest season.

To all these natural advantages must be added the excellence and high standard of social life in Colorado. Scarcely a relic of pioneer or border methods remain, while an order of civilization, which is more than all else conspicuous for its intelligence, refinement and progressive achievements prevails. The State is abundantly supplied with schools, churches and all institutions for the preservation of good government. No State in the Union can claim more splendid school buildings or a greater number of them in proportion to population, while the church edifices are no where in the Nation excelled for their magnificence. Nowhere in the world can be found a greater degree of intelligence among the poor, while the higher classes are drawn from all parts of the civilized world, bringing with them their education, their refinements and their accomplishments. Taking the State all in all, there is a greater proportion of educated poor and a less percentage of dependent ones among them than in any State of the Union. As an aggregation, whether rich or poor, the number of proportionately bright men and women, of broad intelligence and high attainments in the intellectual world is not exceeded in the scholarly cities of fame in America.

Thus one of the editorial writers on a leading Denver daily paper draws a pen picture of Colorado, present and prospective: "We stand almost on the threshold of a new century. The work of nearly four decades looms up against the background of the past, clear and distinct, even as you have seen the mountain peaks outlined against the amber light of evening. Soon a new century will dawn. Beyond the veil which hides the future I see a great State rising into prominence—far famed for her wealth of natural resources, for her industries as varied as human skill, for her commerce penetrating all portions of the continent, for her laws in which are reflected the intelligence, the justice, the humanity of her people. Firm as the granite bases of her mountains are the foundations of her social and industrial systems. Down deep beneath peak and mountain range sturdy men are mining for precious ore, for iron and for coal; at heated furnaces they stand, pouring out the molten streams of metal; at loom and spindle and forge they are fashioning the crude material into

articles of use and commerce. Across the plain, through the valleys, threading narrow cañons, clinging to precipitous cliffs, surmounting dangerous mountain passes are shining rails of steel which carry the travel and traffic of an enterprising, prosperous and industrious people. Highly cultivated and productive farms and gardens and orchards lend to the landscape an air of thrift and beauty, and illustrate the beneficent results of an intelligent system of irrigation. Everywhere within her broad domain exist the evidences of a refined, cultured, progressive civilization. This is the Colorado of the future, which shall be peerless among commonwealths, the renown of whose prosperity shall fill the whole earth, and whose proud people shall sway the destinies of the republic even to the remotest generation."

EXPLANATORY.

Under the head "True Development of Agriculture," on page 10, the available cultivable areas are stated as follows: Acres of highly productive lands accessible to water, 4,082,738; acres irrigated and under cultivation, 1,844,500. In the manner of presenting these figures (not in the figures themselves) there is an apparent exaggeration. By official measurements the water supply and the canals constructed are sufficient for the irrigation of 4,082,738 acres of cultivable land. Of this vast area 1,844,500 acres are at present under ditch, and immediately available for tillage, while there are approximately 1,000,000 acres under cultivation by irrigation, leaving another approximate million acres under ditch open to settlement and at once available for agriculture. Added to this are many scattered areas aggregating unknown millions of acres where the land can be successfully tilled without artificial irrigation. Hundreds of thousands of these acres are under cultivation in field and meadow, and thus the total area of irrigated and non-irrigated lands under cultivation is unofficially estimated at more than 1,500,000 acres.

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